Test Specifications Distributor-Type Fuel Injection Pump

46

WPP 001/4 HAN 3,1a 5 3, Edition

En

Festoil-ISO 4113

VA 6/100 H 1700 CR 119 CR 119-1

0 460 306 108 0 460 306 109 supersed&2.82 company Hanomag engine D 161 L

Pre stroke setting $0.3 \text{ mm} \pm 0.02 (\pm 0.04)$ Setting of the pointer at a stroke of 1 mm in relation to outlet "A". Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B

All test specifications are valid for

Pre-setting see reverse side

relation to outlet A		The Setting Secretorise side			
1. Settings	rev/min	Settings		Charge-air press kp/cm²	Difference in delivery cm ³
1 1 Timing device travel	1500	4, 3-5, 1	mm		
1 2 Supply pump pressure	1500	6,3-6,8	kp/cm²		
1.3 Full-load delivery without charge air pressure	1200	49,0-50,0	cm³/1000 strokes		2,5
Full-load delivery with charge-air			cm ³ /1000 strokes		1.0
pressure 1 4 Idle speed regulation	300	12,0-18,0	cm ³ /1000 strokes		· 3,0
1 5 Start	100	mind. 60, 0	cm³/1000 strokes		
1 6 Full-load speed regulation	1800	26,0-34,0	cm³/1000 strokes		

21 Timing device	rev/min			1500	1550-1700
-	mm	Beginn		(4,0-5,4)	5, 2-5, 9(4, 9-6, 2)
2 2 Supply pump	ev/min	200		1500	1700
ŀ	kp/cm ²	1,2-1,7(1,6-1	1,9)	(6,1-7,0)	7,0-7,5(6,8-7,7)
Overflow delivery	ev/min	500			1700
	cm ³ /10 s	55-100(40-1	10)		55-100(40-110)
23 Fuel deliveries					•
Speed control lever	Delivery lever	rev/min	cm³/1000 stroke	s	Charge-air pressure kp/cm²
End slop	Full	1880-1960 (1860-1980) 1800 1700 1200 500		(25,0-35,0) (41,0-46,0) (48,5-50,5) (38,0-44,0)	
	Stop	1700	0		
idle stop	Full	450-500 (430-520) 100	0 mind. 60, 0		
End stop	Start	150-250			

Angle to the stop-plate	Pre-setting dimensions
Pump " = 25 ± 4° B = 55 ± 8° The state of	Pump Dimension Iv 4,0 mm Dimension v 24,6 mm

WPP 001/4 CIT 2,1c 6 Edition

VA 4/90 H 2250 CR 171-2 0 460 394 024

supersetes 82 Citroen CRD 90

Pre-stroke setting

Testoil-ISO 4113

All test specifications are valid for **Bosch Fuel Injection Pump Test Benches** and Testers Test Intructions and Test Equipment

VDT-WPP 161/4 B

Pre-setting see reverse side

1. Settings	rev/min	Settings		Charge-air press	Difference in delivery cm ³
1 1 Timing device travel	1400	4,3-4,7	mm		
1 2 Supply pump pressure	1400	4,4-4,9	kp/cm²		
1.3 Full-load delivery without charge air pressure	1250	36,0-37,0	cm³/1000 strokes		1,5
Full-load delivery with charge-air			cm ³ /1000 strokes		
pressure 1 4 Idle speed regulation	350	9,5-15,5	cm ³ /1000 strokes		2,0
1.5 Start	100	mind.58,0	cm ³ /1000 strokes		
1.6 Full-load speed regulation	2400	12,0-18,0	cm³/1000 strokes		

21 Timing device	rev/min	700	1400	1800	2050-2200
	mm	0,8-1,8(0,5-2,1)	(4,0-5,0)	5,8-7,8(5,5-8,1)	7,0-7,7(6,7-8,0)
2.2 Supply pump	rev/min	200		1400	2250
	kp/cm²	1,0-1,5(0,8-1,7)		(4, 2-5, 1)	7,1-7,6(6,9-7,8)
Overflow delivery	rev/min	500			2250
oremon deniery	cm1/10 s	55-100(40-110)			55-100(40-110)

23	Fuel	deli	veries
----	-------------	------	--------

Speed control lever	Delivery lever	rev/min	cm³/1000 strokes	Charge air pressure kp/cm²
End stop	Full	2500-2600 (2480-2620) 2400 2250 1250 600	0 (11,0-19,0) 33,0-35,0 (32,0-36,0) (35,0-38,0) 30,0-33,0 (29,0-34,0)	
	Stop	2250	0	
Idle stop	Full	360-430 (340-450) 350	(8,5-16,5)	
End stop	Start	100 150-250	mind.58,0	

Angle to the stop-plate	Pre-setting dimensions			
Pump " = 25 ± 4° B = 55 ± 8° 1 = 30 - 8° 2 = 60 + 8°	Pump Dimension IV 1,6 mm Dimension V = 24,6 mm			

Spring preload force

For shutoff stroke 1.5 mm = 4.5 NmFor shutoff stroke 0.6 mm = 8.5 Nm

٦. ~ 25/3

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 PEU 2,3 L 1

1. Edition

VE 4/10 F 2075 R 131 DHK: 1 688 901 022 0 460 404 032

supersedes Peugeot company: XD 2 S engine:

Test pressure de pressure line 6x2x450/1 680 750 073 Overflow temperature 45° C

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1250	2,1-2,5	mm	0,8	
1.2 Supply-pump pressure	1250	3,7-4,3	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	1250	48,2-49,2	cm ³ /1000 strokes	0,8	2,5 (3,0)
charge-air pressure Full-load delivery without	500	39,5-40,5	cm³/1000 strokes	0	
charge-air pressure	400	13,0-17,0	cm ³ /1000 strokes	0	2,0 (3,0)
1.5 Full-speed regulation	2350	20,0-26,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 50	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing					

2. Test Spec	cifications						
2.1 Timing device LDA=0,8 bar	n = rev/min	*500 800 0,8-1,4(0,	125 ,4-1,8) (1,6-		750 4(4,3-5,7) (2000 6,9-7,7(6,6-8	
2.2 Supply pump LDA= 0,8 bar	n = rev/min bar (kgf/cm²)	200 0,7-1,3			2000 7,5-8,1		
Overflow delivery	n = rev/min cm ³ /10 s	500 (0 bar) 55-138 (40-153)			2000 (0,8 bar) 55-138 (40-153)		
2.3 Fuel deliveries Speed control lever	Rot. speed	Fuel delivery		Charge-air press.	3. Dimen	SIOTIS tor assembly and adjustment mm	
End stop	2550 2350 2250 2000 1250 * 750 500	max. 7,0 32,0-40,0 47,5-49,5	(19,0-27,0) (32,0-40,0) (46,3-50,7) (46,5-50,9) (44,0-50,0) (37,0-43,0)	0,8 0,8 0,8 0,8 0,8 0,25	K KF MS SVS	3,2-3,4 5,7-5,9 0,9-1,1 2,3	
switch-off					A B	·	
Idle stop	400 500 675 380	max. 4,0 min. 8,0 min. 47	(11,0-19,0)		Observations Please note instructions on sheet 2.		
End stop - 2.4 Solenoid	675 380 480 max. cut+n vottes	min. 8,0 min. 47 max. 45	10 V				

* LDA-stroke 4,5 mm

Use adjusting nut (46) to correct.

At n=500 1/min and with cold-start accelerator solenoid deenergized timing device travel = 1,0 - 3,0 mm

Test Specifications Distributor-type Fuel-injection Pumps

WPP 001/4 PEU 2,3 L

1. Edition

Testoil-130 414

VE 4/10 F 2125 R 131-1 DHK: 1 688 901 022

0 460 404 033

supersedes

Test pressure de pressure line 6x2x450/1 680 750 073 Overflow temperature 45° C

company: Peugeot XD 2 S

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
	1250	2,1-2,5	mm	0,8	
1.1 Timing device travel	1250	3,7-4,3	bar (kgf/cm²)	0,8	
1.2 Supply-pump pressure	1250	48,2-49,2	cm³/1000 strokes	0,8	2,5 (3,0)
1.3 Full-load delivery with charge-air pressure	500	39,5-40,5	cm³/1000 strokes	0	
Full-load delivery without charge-air pressure 1.4 Idle regulation	400	13,0-17,0	cm ³ /1000 strokes	0	2,0 (3,0)
1.5 Full-speed regulation	2400	20,0-26,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 50	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing					

2. Test Spe	cifications	checking values in bra	ckets ()			
2 1 Timing device DA=0,8 bar	n = rev/min mm	*500 800 0,8-1,4(0,4-	1250 -1,8) (1,6-			2000 ,9-7,7(6,6-8,
2.2 Supply pump DA=0,8 bar	n = rev/min bar (kgf/cm²)	200 0,7-1,3	•		2000 7,5-8,	1
Overflow delivery	n = rev/min cm ³ /10 s	500 (0 ba 55-138(40-153			2000 (0 55-138(4	
2.3 Fuel deliveries		<u>.1</u>			3. Dimen	and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	mm
End stop	2600 2400 2300 2000 1250 * 750 500	32,0-40,0 (3 47,5-49,5 (4 46,5-47,5 (4	(6,3-50,7) (5,5-50,9)	0,8 0,8 0,8 0,8 0,8 0,35	K KF MS SVS	3,2-3,4 5,7-5,9 0,9-1,1 2,3
switch-off					A B	
ide stop End stop	400 500 675 380 480	max. 4,0 min. 8,0 min. 47 max. 45	11,0-19,0)		Observations Please note instructions on sheet 2.	
2.4 Solenoid	max. cut-in volta		0 V 12V.			

BOSCH

* LDA-stroke 4,5 mm

Use adjusting nut (46) to correct.

At n=500 1/min and with cold-start accelerator solenoid deenergized timing device travel = 1,0 - 3,0 mm

Test Specifications Distributor-type Fuel-injection Pumps

46

WPP 001/4 IHC 3,9 y 2. Edition

n

VE 4/11 F 1150 R 140 0 460 414 009 DHK 1 688 901 020

Overflow temperature 45° C

supersede 12.83
company HC
engine: DT 239/856

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,2

m ± 0,02 (0,04)

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	800	4,5- 4,9	mm	0,8	
1.2 Supply-pump pressure	800	5,3- 5,9	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	800	92,2-93,2	cm³/1000 strokes	0,8	3,5 (4,0)
charge-air pressure Full-load delivery without	500	76,0-77,0	cm ³ /1000 strokes	0	
charge-air pressure 1 4 Idle regulation	350	23,0-27,0	cm ³ /1000 strokes	0	3,5 (4,0)
1.5 Full-speed regulation	1250	42,0-48,0	cm³/1000 gtrokes	0,8	
1 6 Start	100	min. 100	cm³/t000 strokes	0	
1.7 Load-dependent port-closing	-	-			

2. Test Spec	cifications	checking values in brackets ()	
2.1 Timing device LDA = 0,8 ba	n = rev/min mm	400 0,8-1,6 (0,5-1,9)	800 (4,0-5,4)	1150 5,3-6,1 (5,0-6,4)
2.2 Supply pump LDA = 0,8 ba	n = rev/min bar (kgf/cm²)	400 3,7-4,3		1150 6,4-7,0
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)		1150 (0,8 bar) 55-138 (40-153)
2 3 Frest deliveries	1			3. Dimensions

	cm ³ /10 s	55-138 (40-153)	
2 3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery Charge-air par (kgf/cm	
End stop	1300 1270 1250 1130 800 800 * 500	max. 2,5 min. 2,5 (40,5-49,5) 85,4-88,4 (84,2-89,6) (90,0-95,4) 87,9-88,9 (85,7-91,1) 82,5-85,5 (80,6-87,4) (73,1-79,9)	
switch-off			
idle stop End stop	350 400 450 220 300	(20,5-29,5) 5,0-11,0 (3,5-12,5) max. 3,0 min. 100 max. 80	
2.4 Solenoid	max. cut-in volt	AAA 1112114 TV V	

3. Dimens	BIONS for assembly and adjustment mm
K KF MS SVS	5,2-5,4 1,2-1,4 5,0
AXK B XL Observations	20,2-22,2

Manifold-pressure compensator stroke = 4,5 mm Correction at the adjusting nut. (46) Testoil-ISO 4713

WPP 001/4 HOR 2.0 b

5. Edition

En

PES 2 A 80D 410/3 RS 1329 Komb.-Nr. O 400 462 053 RSV 400-1250 AOB 1123 L AOC 1123 L supersede: 6.83
company Holder
engine VD 6001/2

Port closing difference between control-rod travel 9 and max. = $9 - 9.9^{\circ}$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,65-1,85)

mm (from BDB) =7,5-10,5mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250 400	9,7-9,8 6,7-6,9	6,0-6,1 0,9-1,5	0,2 (0,3 0,2 (0,3			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min	Control rod travel mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	cad Control rod travet mm 9	3 Tor	que control Control rod travel mm
100se (5a.46	8,7	1290-1300	1	•	•	ca. 20	100 400	6,3 min 19,5 6,7-6,9 565= 2,0		-
	4,0 1495	1330-1360								<u></u>

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Fuli to	2 Full-load stop 6 Rotat speed			el delivery tracteristics	Starting Idle	fuel delivery	5a) idle stop		
Test oil temp rev/min 1	cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm	
1250	59,5-60,5 (58,0-62,0)	1290-1300*		•	•	-			

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 MWM 3,1 c 1. Edition

supersedes_

company MIM

D 226-3, 916-3

En

estoil-ISO 4113

Rotational speed

rev/min

PES 3 A 80 D 320/3 RS 1331 RSV 325-1500 A 2 B 505 DR Komba-Nr. 0 400 463 137 . •

Komb.-Nr. 0 400 463 137 . 1 - 2 - 3 je 120° - 0,5' (- 0,75')

Port closing difference between control-rod travel 9 and max. = $3,5-4,5^{\circ}$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2, 2 - 2, 3 (2, 15 - 2, 35)

Control rod

mm

mm (from BD 10 9,0-12,0 mm

Difference Control rod travel Cm³/
100 strokes mm cm³/100 strokes mm
4 2 3 6 Spring pre-tensioning (torque-control valve)

1480 9,0-9,1 4,8+4,9 0,25(0,4)

Fuel delivery

cm³/100 strokes

325 7,4-7,6 0,9 - 1,5 0,2(0,35)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control tever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever		Control rod travel mm	4 Lower Degree of deflection of control lever	rated spe rev/min 8	ed Control rod travel mm 9	\sim	que control Control rod travel mm
loose	800 x =	0,3-1,0 3,5	-	•		ca.57	325 100	5,5 min.19,0		
ca. 18,5	8,0 4,0 1740	1530-1540 1570-1600 0,3-1,7					325 410-4	5,9-6,1 70=2,0mm		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop					Starting Idle	fuel delivery	Sa Idle stop		
Test oil temp rev/min 1		Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min	Control rod travel mm	
1480	48,0 - 49,0 (46,5 - 50,5)	1530-1540 *	•	-		90,0-106, (87,0-109, bei RW=19, - 21,0 mm 9,5-15,5)))		

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors

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WPP 001/4 HOR 2,4 a 3. Edition

En

Festcil-ISO 4113

PES 3 A 80 D 410/3 RS 1336

RSV 400-1250 AOB 1123 L

company Holder

AOC 1123 L

engine VD 6001-4 Schlepper A 60

supersede 1.82

Komb.-Nr. 0 400 463 144 1 - 2 - 3 je 120° - 0,5° (- 0,75°)

Port closing difference between control-rod travel

9 and max $_{*}$ = 9 - 10° All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,7 - 1,8 (1,65-1,85) mm (from BDC)

RW 9 mm

		(1,00-1,00)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1230	11,0+0,1	7,0-7,1	0,2(0,35			
400	7,9-8,1	0,9-1,5	0,2(0,3)			
	1				l	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of dellection of control lever	rated speed rev/min	Control rod travel mm	Intermediate Degree of deffection of control lever	rated spe rev/min	Control rod travel mm	4 Lower Degree of deflection of control lever	Control rod travel		que controi Controi rod travel mm
loose	800	0,3 - 1,0 4,25	-	-	•	ca.24	7,5 min.19,0 7,9-8,1	-	•
ca. 48	10,0 4,0 1500	1270-1280 1335-1365 0,3-1,7					O=2,0mm		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	pad stop	6 Rotational- speed limital. 3a Fuel delivery characteristics			Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	1 .	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1230	70,0 - 71,0 (68,5 - 72,5)	1270-1280 *	-	-	100	19,5-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISC 4113

Test Specifications Fuel Injection Pumps and Governors

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WPP 001/4 MWM 2,1 b
3. Edition

En

PES 2 A 80 D 320 RS 1337 Komb.-Nr. 0 400 472 044

RSV 300-1000 A7B 505-1R

superseder 82 company MWM engine D 226-2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 - 2,35) mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm³/ 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
980	9,7-9,8	4,8-4,9	0,25(0,4			
· 300	7,2-7,4	1,0 - 1,6	0,2 (0,35			
				}		
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) To:	que controi
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose		0,3 - 1,0	-	-	-	ca.27	300	5,5	-	-
.0000	X =	6,0					100 300	min.19,0 5,9-6,1		
ca. 66	8,7 4,0 1205	1020-1030 1050-1080 0,3-1,7					B50-41			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-t	oad stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	5a Idle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min	Control rod travel mm 9	
980	48,0- 49,0 (46,5-50,5)	1020-1030*	-	•	100	88,5-104,5 (85,5-107,5 - 19,5 - 21,0 mm RW)	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.84

BOSCH

WPP 001/4 MWM 3,1a 4. Edition

En

PES 3 A 80 D 320 RS 1338

RSV 300-1000 A 7 B 505-1R

Komb.-Nr. 0 400 473 086

supersed & 0 . 83 company: MWM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

estoil-150 4113

Port closing at prestroke (2,25-2,35) mm (from BDC)

. Ort ordoring at price		(2,25~2,35)				
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
980	9,7-9,8	4,8-4,9	0,25(0,4)		
300	7,4-7,6	0,8-1,4	0,2(0,35			
		ł				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of centrol lever	rev/min	Control rod travel mm	Degree of deflection of control tever	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	10	11	
1oose	800	0,3-1,0	-	•	-	ca.25	300	7,0	-	-	
	X = 6	,0					100 300	min.19,5		į	
<u></u> 62	8,7 4,0 1205	1020-1030 1050-1080 0,3-1,7						450=2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-	oad stop	8 Rotational-			Starting Idle	fuel delivery	(5a) Idle stop	
Test oil ter rev/min 1	mp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm
980	48,0-49,0 (46,5-50,5)	1020-1030*	-	-		92,0-108,0 89,0-111,0 = 19,5 - 21,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 MWM 4.1 a

2. Edition

En

PES 4 A 80 D 320 RS 1339 Komb.-Nr. O 400 474 159 RSV 300-1000 A7B 505-1R

supersed **6.82** company NWM engine D 226-4

Testoil-ISO 4113

All test specifications are valld for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,15-2,35) mm (from BDC)

	(2,10-2,00)				
Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ωm	cm ³ /100 strokes	100 strokes	lww	cm-/100 strokes	mm
2	3	4	2	3	6
9,7-9,8	4,8 - 4,9	0,25(0,4)		
7,2-7,4	1,0 - 1,6	0,2(0,35)			7
	travel mm 2 9,7-9,8	Control rod travel mm cm³/100 strokes 3 9,7-9,8 4,8 - 4,9	travet cm ³ /100 strokes cm ³ / 100 strokes 2 3 4 9,7=9,8 4,8 - 4,9 0,25(0,4)	Control rod travel mm cm³/100 strokes 2 3	Control rod travel The control rod travel Co

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever		Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	Degree of deflection of control tever	revimin 8	Control rod travel	\smile	que control Control rod travel mm
100se ca.66	x =	0,3-1,0 6,0 1020-1030 1050-1080 0,3-1,7	-	•	•	ca.27	300 100 300 350-41 450	5,5 min.19,0 5,9-6,1 0 = 2,0 max.1,0	•	-

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	5a Idle stop	
Test oil temp. 40°C (104°F) rev/min		Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
980	48,0 - 49,0 (46,5 - 50.5)	1020-1030*	-	-	100	88,5-104,5 (85,5-107,5 - 19,5 - 21,0 mm RW)	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 5,7 p

2. Edition

En

PES 6 A 80 D 410 RS 2085

RSV 350-1400 A 5 B 716 DL

Komb.-Nr. 0 400 876 211

supersedes 12.74
Daimler-Benz
company OM 352

engine 126 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoliano 4118

(2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery			Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm1/100 strokes	cm ⁻ / 100 strokes 4	mm 2	cm // 100 strokes	mm 6
1000	9,0	5,5-6,0	0,4			
1000	6,0	2,3-3,0				
200	6,0	1,3-2,2				
ı						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	1 3	rque controt Controt rod travel mm
ca.71	1400 1460 1520	13,0 9,2 4,6	witho	ut aux	iliar	ca. 28 spring	350 200 350	5,5 19,0-21,0 5,2-5,8	1380 1000 500	0 0-0,3 0,6-0,8
ca.68	1500	ca. 8,2 3,0 0,3-1,0	with	auxili	ary s	pring	480 620	1,7-3,5 0-1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	Rotational- speed limitat Note changed to		uel delivery naracteristics	Starting f	uel delivery 5	43 Idi	e stop Control rod travel
rev/min	cm1/1000 strokes	rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm 1000 strokes	rev/min 8	mm 9
1400	56,5-57,5 (55,0-59,0	1425-1435*	1000 800	54,0-56,0 (52,5-57,5) 52,5-54,5 (51,0-56,0)		ca. 79 idle speed 1510 3,5 mm RW	350	5,5

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postlach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Gesmany Imprime en République Fedérale d Allemagne par Robert Bosch GmbH.

Test Specification Testoil-ISO 4113 Fuel Injection Pumps and Governors

WPP 001/4 MB 5,7 r

Edition

PES 6 A 80 D 410 RS 2085 Komb.-Nr. 0 400 876 239 EP/RSV 350-750 A0 B 741 (350-900)

supersed 10.75 company Daimler-Benz engine OM 352 (57/63 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

mm (from BDC)

rev/min 1	travel mm 2	cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	9	5,6 - 6,0	0,4			
	6	2,2 - 3,0				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever		Control rod travel	Degree of deflection of control lever	rated spe rev/min 8	Control rod travel mm		que control Control rod travel mm 11
ca. 31 ca. 29	750 775 850 740 775 820	16,0 10,8 4,3 ca. 8,8 ca. 4,6 0,3-1,0	without	aixil	liary spri	ca. 17 ng	350 200 350 375 410	5,8 19 -21 5,5-6,1 1,2-3,5 0 - 1	-	-

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	id stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	(5a) Idle stop	
	1 .	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
730	47,0 - 48,0	745-755 *			100	11,8 - 12,4		
(880)	48,5 - 50,5	895-905 *) (VH ca. 33)				mm RW		
			4	0 3,6 mm RW				
(increa	se by [±] 1,5 c	n³)	930-9	5 3,6 mm RW)			<u> </u>	<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

and Governors

WPP 001/4 MB 5.7 m

Edition

PES 6 A 80 C 410 RS2085X EP/RSV 350-1300 A2B1005D (1) EP/RSV 350-1425 A2B1001D (2) RS2085X ..D.. RS2085X

EP/RSV 350-1425 A2B1007D (3)

EP/RSV 350-1400 A2B1052D (4) RS2085X EP/RSV 350-1300 A2B1005D (5) RS2085T

supersedes 0.83 company Daimler-Benz OM 352 - Unimog

(1+5)84 PS 90 PS (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

100 PS (3) 110 PS 5

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1000	9	3,8 - 4,3	0,3	2	3	
2000	6 15	1,2 - 2,0 9,8 - 11,0				4
200	9	1,8 - 2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

350-1300 A2 B1005 D (1)

Degree of deflection of control		Control rod travel mm 3	Intermediate Degree of deflection of control lever	•	Control rod travet mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	ed Control rod travel mm 9	3 Tor	que control Control rod travel mm
loose	800 ×	0,3-1,0 = 4,25	-	•	•	lose		6,9 min.17,5 6,8-7,0	500 700	3,0+0,1 9,6+0,1 9,3+0,2
ca.48	7,0 4,0 1575	1340-1350 1410-1440 0,3-1,7					695-	755=2,0	950	8,3+0,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop	6 Rotational- speed limitat. 3a Fuel delivery characteristics			Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min cm³/1000 strokes 6 7		rev/min 8	Control rod travel mm 9	
(1) 1300	40,0 - 41,0 (38,5-42,5)	1340-1350 •	500	39,5 - 41,5 (37,5-43,5)	100	78,0 - 88,0 (75,0-91,0) = 13,6 - 14,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

350-1425 A2 B1001D (2)

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	4 Lowe Degree of deflection of control lever	rev/min	ced Control rod travel mm	3 for rev/min 10	Control Control travel mm
ca.60	1425 1500 1560	16,0 11,5 6,8	without	auxil	liary spri	ca.22 ng	350 200 350	7,5 19 - 21 7,2-7,8	1400 900	0 0 -0,2
(5)	1530 1600 1820	7,5-10,5 4,0-6,0 0,3-1,0	with au	xiliaı	ry spring		500 700 940	5,1-6,6 0,1-4,0 0 - 1	400	1,3-1,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	pad stop	6 Rotational speed limitat		el delivery aracterístics	Starting	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	p 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to rev/min	rev/min	cm 1/1000 strokes 5	rev/min	cm 1/1000 strokes	rev/min	Control rod travel mm 9	
(2) 1400	41,0 - 43,0	1455-1465	1000 800 500	37, 0 - 40, 0 38, 5 - 41, 5 40, 0 - 43, 0	100	72,5 - 82,5			
(inc	rease by + 0,	cm³)ı	6a)						

Checking values in brackets

* 1 mm less control rod travel than cot 2

Testoil-ISO 4113

B. Governor Settings

350-1425 A2 B1007D (3)

Upper Degree of deliection of control lever	rev/min	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	control rod travel mm	Lowe Degree of deflection of control tever	rev/min	Control rod travel mm	3 Tor rev/min 10	que control Control rod travel mm 11
ca.60	1425 1500 1560	16,0 11,4 6,6	without	auxi	liary spri	ca.22 ng	350 200 350	7,2 19 - 21 6,9-7,5	1400 950	0
(5)	1520 1650 1800	8,0-10,9 2,1-4,4 0,3-1,5	with au	xiliaı	ry spring		600 850	2,3-4,6 0 -1,5	450	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-I	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil ten rev/min 1	op 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
(3) 1400	45,0 - 47,0	1420-1430	1000 800 500	41, 0 - 44, 0 42, 5 - 45, 5 40, 0 - 43, 0	100	72,5 - 82,5			

B. Governor Settings

350-1400 A2 B1052D (4)

(1) Upper	rated spee	đ	intermediate rated speed			(4) Lowe	r rated spe	eed	(3) Torque control	
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.59	1400 1480	16,0 10,8	without	auxil	liary spr	ca.22	350	7,5	1400	0
	1530	7,0	without auxiliary spri				200 350	19 - 21 7,2-7,8	800	0,1-0,3
⑤	1500 1600 1800	7,2-10,6 3,6-5,5 0,3-1,0	with au	ıxiliaı	ry spring		600 950	3,4-5,4 0 - 1	400	0,8-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational speed limitat	(3a) Fuel delivery characteristics		Starting	fuel delivery	(5a) Idle stop	
Test oil ten rev/min 1	np 40°C (104°F) cm²/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm 9
(4) 1400	50,5 - 52,5	1425-1465	-	46,0 - 49,0 44,5 - 47,5 44,5 - 47,5	100	72,5 - 82,5		
(inc	rease by ÷ 0,	5 cm³))	6 a)					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col 2

B. Governor Settings

350-1300 A2 B1005D mit 2085 T (5)

1 Upper Degree of deflection of control tever	rated speed	Control rod travel	Intermediate Degree of deflection of control lever		Control rod travel	4 Lower Degree of deflection of control tever	rated spo	Control rod travel	3 Tor	que control Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.51	1300	16,0			iliany on	ca.19	350	. 8,0	1280	0
	1360 1400	10,8 6,7	WITHOU	ut aux	iliary sp	rilig	200 350	19 - 21 7,7-8,3	800	0,8-1,0
ca.49	1300 1400 1520	ca.8,2 ca.3,7 0,3-1,0	with a	auxili	ary sprin	9	600 780	2,2-4,3 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad slop	6 Rotational- speed limitat.		et delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop	
Test oil tem rev/min 1	p 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/ tū03 strokes 7	rev/min 8	Control rod travel mm 9
(5) 1290	40,0 - 41,0 (38,5 - 40,5)	1330-1340 (1325-1345)	800 500	36,5-39,5 (35,0-41,0) 36,5-39,0 (35,0-40,5)	100	72,5 - 82,5		

Test Specifications (2) Fuel Injection Pumps 2 and Governors

WPP 004/4 KHD 6,1 b 3. Edition

PES 6 A 85 D 410/3 RS 2366 RQ 275/1400 AB 798 D supersedes 11.77 EP/RS 325/1400 AOB 675D, 699D company KHD RS 2415 EP/RSV..661D, 673D, 686D, 720D_{engine} BF 6 L 913 F 6 L 913** PES 6 A 80 D 410/3 RS 2348**

Test RS governor according to WPP 001/4, KHD 1 c

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery 8,5 £ cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery 8,0 \$ cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4	9	3,1 - 3,5	
	6	0,6 - 1,4		6	0,1 - 0,6	
200	9	1,4 - 2,2		9	0,6 - 1,3	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ 275/1400 AB 798 D

Checkin PRG che	g of slider	Full-load : Setting po	•	•	cifications (4)	Idle spec	•		cifications (5)	Torque d	(3)
rev/min 1	Control rod travel mm 2	rev/min 3	Central red travel mm 4	Control red travel rnm 5	rev/min	rev/min 7	Control red travel mm B	rev/min 9	Control rod travel mm		Control rod travel mm
1300	13,7-14,3	1300	14,0	1420 1460 1530 1620	13,6-14,0 9,6-13,0 0 - 9 0		0	100 250 350 540	6,2-8,1 4,8-6,8 3,0-5,2 0	650 900 100	15,8-16,0 14,9-15,3 14,0-14,3

on flyweight assembly dimension a = 0,65 Torque-control travel

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting find the speed	uel delivery
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel crm ³ /1000 strokes/mm 7
Inst	ructions P. 3 - 4	·		•		
(inc	rease by ± 1,0 cm	3)				./.

Checking values in brackets

Upper rated speed

Intermediate rated speed

Lower rated speed

	7	2	ŧ
•	アアこ	- t	
		2	
- T			

Jpper rated s	peed		Intermediate	rated spe	1	Lower rated	speed	1		eave travel
Degree of		Control rod	Degree of deflection		Control rod travel	Degree of deflection	1	Control rod	Torque-c	ontrol travel
deffection of control		travel	of control			of control				
ever	rev/min	mm	lever		mm	lever	rev/min	mm 💣	1	mm
l	2	3	4	5	6	7	8	9	10	<u> </u>
EP/RSV	325-14	100 A 8 B 6	61 D						Y	r
ca.64	1355	16,0 .		1		ca.15	325	7,5	1400	0
Culor	1400	12.6	without	auxil	iary sprii			min.19,5		
				Ì	1 .		325	7,9-8,1	1000	0,5-0,7
	1460	4,0	[Į	l		325	7,9-0,1	1000	0,5-0,7
			<u> </u>					1		
	1430	8,0 - 9,5	ļ			ĺ	630-			
	1500	1,2 - 3,2	with au	viliar	v enring		690	ĺ	500	1,2-1,4
		0.3 - 1.5		r · · · · · ·	b shi ing			}	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	1500	0,5 - 1,5						<u> </u>	<u></u>	L
EP/RSV	325-11	150 A 8 B 6	73 D	- e+						
56	1150	16.0				ca.21	325	5,5	Ì	
ca.56	1150	16,0 11,1	without	auxi1	liary spri	na		19 - 21	1130	0
	1250	5,4	1	1	1			5,2-5,8		1,0-1,2
		7,5-10,4						1,4-3,4		
		1,3-3,6	with au	kilia	y spring		660	0 -1.5		ì
	1380	0,3-1,5						,,,,		
	1300	0,5	1	i				ļ	1	ļ
		1		1	1	İ]	1	1	ł
		<u> </u>					<u> </u>	L		L
EP/RSV	325-90	00 A 7 B 68	6 D, 72	20 D						
ca.60	900	16,0	ca.26	325	6,0	ca.26	325	6,0		1
Ca.00	940	11,2	caseo	150	19 - 21	00000	150	19 - 21	880	0
	980	4,8		325	5,7-6,3	1		5,7-6,3	İ	
		6,0-9,5		450	1,5-3,7			1,5-3,8	400	0,9-1,1
	1000	2,6-4,6		550	0 -1,5		450	0 - 1,5		
		D,3-1,5					1		1	
٥			686 D	-low	er -	720 D	-lowe	er -		
		1	į .					1	1	1
ED/DS 3	25-146	00 A O B 67	5 D					<u> </u>		
	1	1	1	T	T	1	1 005	1 00	14200	T .
		15,8-16,6	1	1			325		1380	0
FHca.58		11,4-12,5	1	1	1			9,4-10,0	1050	0 0-1 4
	1560	6,1-8,1			1			4,3-6,4		0,9-1,1
		1,6-4,1	i		ł			8,5-4,0	550	1,2-1,4
	1680	0,3-1,0					1000	8,3-3,9		
	1	1			1			2,4-3,0		
	1		1	ì	1		1500	0	1	
			1		1		1		1	-
EP/RS 3	325/14	DO A O B 69	9 D	1			4			
		15,8-16,5	T	Τ	T	1	325	8,3	1380	0
		11,9-13,3	1		1.			8,4-9,1		0,3-0,
I II IIIGA.		7,7- 9,8			1		400		1.00	0,50,
		2,8-5,8	1					3,5-4,0	600	0,7-0,9
	1620		1		i			2,8-3,2	1 000	,, 0,
	1'020	","		1	1		1510			
					1		1.5.0			
	1									
	1								<u> </u>	1

	engine p Full load Control re Test oil te	delivery	Rotational-speed limitation	Fuel deli	very characteristics	Starting fuel delivery Idle switching point	Intermediate rolational speed Torque-control travel
	rev/min	cm ³ /1000 strokes	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min cm³/1000 strokes 6 7	rev/min mm
ļ	BF 6	L 913 - PES 6		366,	2415 - For 6	3 output at	min -1
	1400 1400 1400 1400 1400	88,0-90,0 84,0-86,0 83,5-85,5 80,5-82,5 76,5-78,5	1420 1420 1420 1420 1420	800 800 800 800 800	80,0-83,0 66,0-69,0 66,0-69,0 57,5-60,5 52,0-54,0	160 PS / n = 2800 142 PS / n = 2800 140 PS / n = 2800 130 PS / n = 2800 120 PS / n = 2800	0 0 0
	1325 1325 1325 1325 1325	87,5-89,5 82,5-84,5 80,0-82,0 76,5-78,5 72,5-74,5	1340 1340 1340 1340 1340	800 800 800 800 800	82,5-85,5 66,0-68,5 58,5-61,5 52,5-55,5 48,5-51,5	160 PS / n = 2650 140 PS / n = 2650 130 PS / n = 2650 120 PS / n = 2650 110 PS / n = 2650	0 0 0 0
	1250 1250 1250 1250 1250	87,0-89,0 83,0-85,0 81,0-83,0 77,5-79,5 74,5-76,5	1270 1270 1270 1270 1270	800 800 800 800 800	84,5-87,5 76,0-79,0 69,5-72,5 62,5-65,5 54,5-57,5	160 PS / n = 2500 148 PS / n = 2500 140 PS / n = 2500 130 PS / n = 2500 120 PS / n = 2500	0 0 0
	1250 1200 1200 1200 1165	73,0-75,0 86,0-88,0 78,0-80,0 73,5-75,5 84,0-86,0	1270 1220 1220 1220 1220 1180	800 800 800 800 800	52,0-55,0 84,5-87,5 68,0-71,0 56,5-59,5 84,5-87,5	115 PS / n = 2500 156 PS / n = 2400 135 PS / n = 2400 120 PS / n = 2400 152 PS / n = 2330	0 0 0
	1165 1150 1150 1150 1150	78,0-80,0 83,5-85,5 80,0-82,0 76,5-78,5 73,0-75,0	1180 1165 1165 1165 1165	800 800 800 800 800	69,5-72,5 84,5-87,5 72,0-75,0 66,0-69,0 58,5-61,5	125 PS / n = 2330 152 PS / n = 2300 142 PS / n = 2300 130 PS / n = 2300 120 PS / n = 2300)))
	1150 1100 1100 1075 1075	70,5-72,5 82,0-84,0 75,0-77,0 82,0-84,0 78,0-80,0	1165 1115 1115 1090 1090	800 800 800 800 800	52,0-54,8 84,5-87,5 65,5-68,5 84,5-87,5 76,0-79,0	110 PS / n = 2300 147 PS / n = 2200 125 PS / n = 2200 144 PS / n = 2150 136 PS / n = 2150)))
	1075 1050 1000 1000 1000	71,0-73,0 76,5-78,5 82,5-84,5 77,0-79,0 74,0-76,0	1090 1065 1015 1015 1015	800 800 800 800 800	58,0-61,0 73,5-76,5 84,5-87,5 72,0-75,0 69,5-72,5	115 PS / n = 2150 130 PS / n = 2100 137 PS / n = 2000 130 PS / n = 2000 123 PS / n = 2000)))

C. Settings for Fuel Injection Pump with Fitted Governor

engine po full load di Control rod Test oil ten	elivery	Rotational speed limitation	Fue ⁴ delin	rery characteristics	Starting Idle switchin	fuel delivery	Intermed rolational Torque-c	speed
rev/min	cm ¹ /1000 strakes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	88	
BF 6 L	. 913 - PES 6	A <u>85</u> D RS	2366,	2415 - F or	B out		mir tinued	
4000		4045	000	60 0 60 0	440			
	68,0-70,0	1015	800	60,0-63,0 84,5-87,5		PS / n = 2000 PS / n = 1800		
	82,0-84,0 70,5-72,5	910 910	800 800	69,5-72,5		PS / n = 1800		
	59,0-61,0	910	800	54,5-57,5		PS / n = 1800		
	68,0-70,0	885	800	66.0-69.0	-	PS / n = 1750		
	59,0-61,0	885	800	55,5-58,5	95	PS / n = 1750)	
	85,0-87,0	760	-	-		PS / n = 1500		
	78,0-80,0	760	.=	-	100	PS / n = 1500)	
	72,0-74,0	760	-	-		PS / n = 1508		
750	56,0-58,0	760	-	•	80	PS / n = 1500)	
BF 6 L	. 913 -			- A power	er out	put		
1150	82,0-84,0	1170	-	-	135	PS / n = 2309)	
	72,5-74,5	1170	-	-		PS / n = 2300		
	81,0-83,0	1090	-	-		PS / n = 2150		
	70,0-72,0	1090	-	-		PS / n = 2150		
1000	81,0-83,0	1015	-	-		PS / n = 2000		
	67,5-69,5	1015	-	-		PS / n = 2000		
	78,5-80,5	910	-	-		PS / n - 1800		
	61,5-63,5	910	-	-		PS / n = 1800 PS / n = 1750		
	77,0-79,0 83,5-85,5	885 760	-	-		PS / n = 1500		
	•			_		•		
750	58,5-60,5	760	-	•	/6	PS / n = 1500	J	
F 6 L	913 - PES 6 A EP/RS 3	80 D RS 2 825/1400 A O B		- F - p	ower (output		
	69,0-71,0 64,0-66,0	1420 1420	700 700	64,5-67,5 54,5-57,5		PS / n = 2800 PS / n = 2800		

En

and Governors

WPP 001/4 FOR 4,2 d Edition

3. En

PES 4 A 85 D 210 RS2378

EP/RSV 550-1150 A8B736L (1)

supersedes 0.78

Ford England 254

PES 6 A 85 D 210 RS2379

EP/RSV 550-1150 A5B737L (2)

(2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Differens between

A. Fuel Injection Pump Settings
2,50-2,60
Port closing at prestroke (2,45-2,65) $RW 9 - 21 = 4 - 5^{\circ}$ mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,9 - 5,5	0,3			
200	6	0,1-0,9				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

736L (1)

Upper Degree of deflection of control lever	rated speed ray/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever		Control rod travel	Degree of deflection of control lever	reted spe rev/min 8	control rod travel mm	que control Control rod travel mm
ca.44	1175 1200 1220	16,0 10,0 2,0	withou	ıt anv	oliary spi	ca.19	550 150 550	6,6 19-21 6,3-6,9	
⑤	1150 1230 1300	ca. 9,5 ca. 3,8 0,3-1,0	1		ary spring		620 700	1,5-4,0 0 - 1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-k	oad stop	6 Rotational- speed limitat.		et delivery practeristics	Starting Idle	fuel delivery	(5a) Idik	e stop
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min cm³/1000 strokes 6 7		rev/min 8	Control rod travel mm 9
(1) 1000	63,0 - 65,0 (62,0 - 66,0)	1200-1210*		í	100	min.20mmRM		
	(02,0 00,0)		l.	245 =3,8mm R	550	12,5 - 16,5		./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

(1A)

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod trave! mm 3 .	Intermediate Degree of deflection of control tever		Control rod travel mm	4 Lowe Degree of deflection of control lever 7	rev/min	Control rod travel mm	3 To	Control rod travel mm
ca.44	1150 1200 1230	16,0 9,0 2,5	without	auxi	liary spr	ca.22 ng	550 150	6,6 19 - 2î	-	-
(5)	1150 1249 1320	ca. 9,5 ca. 4,0 0,3-1,0	with au	xiliaı	ry spring		550 620 720	6,3- 6,9 2,4- 4,2 0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	op 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm 9	
(2)		1200-1210*	-	· (4)	100	min. 20,0 mm RW	-	-	
1000	58,0 - 60,0 (57,0 - 61,0)		<u>6</u>		550 230	12,5 - 16,5 1245 = 3,8 mm RW			

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	ed Control rod travel mm	Degree of deflection of control lever	rated spe rev/min 8	ced Control rod travet mm	que control Control rod travel mm
5								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop	6 Rotational- speed limital.		el delivery practeriatics	Starting Idle	fuel delivery	5a Idle stop		
Test of tem rev/min	p 40°C (104°F) cm³/1000 strokes 2	Note changed to : rev/min 3	rev/min	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes	1	Control rod travel mm 9	
		,	~						

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 8,8 a Edition 3.

estoil-ISO 411

PES 6 A 95 D 410 RS2416

PES 5 A 95 D 410 RS 2417

PES 4 A 95 D 410 RS2424

RQ.. 865D, 1054

EP/RSV .. A8 B616D, A7 B616D

ROV 275-1325 AB799D

supersede2.79

company KHD Lizenz TAM

F6 L413R (8,8)

F5 L413R (7,4)

F4 L413R (5,9)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,75-1,85

Port closing at prest	(1	70-1.90)	min (irom abc	, 		
Rotational speed	Control rod travel	Fuel delivery	Difference cm ¹ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm*/100 strokes	TOUSTONES	"""	CIII / TOO SITORES	1.7
1	2	3	4	2	3	6
1000	9	7.5 - 8.0	0,4			_
	6	3,2 - 4,2				
200	6	0,5 - 1,4				
200	0	0,5 1,4				
	1				1	
i	1	1	l l	1	I .	j

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RO 275/1100 AB865D

Checkin	g of stider	Full-load	speed re	gulation		idle spec	ed regula	ation		Torque o	control
		Setting po	oint	Test spe	cifications	Setting	point	Test spe	cifications	ł	
rev/min	Control rod travel mm	rev/min	Control rod travel rnem 4	rev/min	Control rod travet mm 6	rev/min 7	Control rod travel rmm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel mm 12
600	15,7-16,3	600	16,0	1130 1200	14,5-14,8 6,2-11,5		0	100 200 350	7,4-8,1 6,2-8,1 2,4-4,6	800	15,8-16,0
				1230 1320	0 - 9,5 0			460	0	1000	14,8-15,0

Torque-control travel on flyweight assembly dimension a \pm 0,35 mm

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	uel delivery
rev/miก 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min	cm 1/100 s G olfds.
Inst	uctions P. 5 -	6			100	114 - 124

Checking values in brackets

3.84

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung. • 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne per Robert Bosch GmbH.

Checkin PRG che	g of slider	Full-load : Setting po	oint	Test spe	cifications (4)	ldle spe Setting (point		cifications (5)	Torque o	(3)
rev/min	travel mm	rev/min	Control rod travel mm	Control rad travel rnm 5	rev/min 6	rev/min 7	Control red travel mm	rev/min 9	travel mm	rev/min	travel mm
600	15,7-16,3	600	16,0	1220 1280 1300 1420	14,5-14,8 7,0-12,1 0 - 6,7	560	0	100 200 350 460	7,3-8,1 6,1-8,1 2,4-4,6 0	800 1000	15,8-16,0
			0.25								1 mm less contro

Torque-control travel on flyweight assembly dimension a $\tilde{\gamma}$

1,35 mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fi Idle spee	1 Control
rev/min 1	cm ³ /- 1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
Pag	e 5 - 6					

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

PRG che	Control rod	1	•	Test spec Control rod travel	rev/min	tdle spec Setting p rev/min 7	Control Control rod travel		critications (5) Control rod travel mm		Control rod (3) travel mm
600	15,7-16,3	600		1340 1400 1470 1560	14,5-14,8 9,6-13,0 0 - 8,2 0	560		100 200 350 460	7,4-8,1 6,1-8,1 2,5-4,6	800 000	15,8-16,0 14,8-15,0

Torque-control travel on flyweight assembly dimension a =

നന

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor c Test oil ten	elivery on control lever np 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	Control
rev/min 1	cm ³ /-1000 strokes	rev/min	rev/min 4	cm ³ /-1000 strokes	rev/min 6	rod travel cm ³ /1000 strokes / mm 7
Pag	e 5 - 6	·				

En Checking values in brackets

B Se	etting	values for	the go	vernor	•	EP/R	SV	KHD I	8,8 a	- 3
Upper rated s	speed		Intermediate	rated spe	ed	Lower rated	speed		Stiding st	leeve travel
Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Torque-c	control travel
lever	rev/min	mm 3	lever	rev/min	mm 6	lever 7	rev/min 8	mm 9	rev/min 10	mm 11
•	-	<u> </u>	I <u></u>		<u> </u>	<u> </u>	<u> </u>			
300-	750 A7	B616D			,					
ca. 48		16,0				ca.24	300	6,0	730	0
	800 820	8,0 4,2			l		125	19,0-21	/30	0
			withou	t aux	øliary spr	ing	300	5,7-6,3	350	0.7-0.9
	785						450 560	0,6-3,2 0 - 1		,, ,,,
	810 940	4,8- 7,7 0,3- 1,0	with a	uxili	ry spring		200	"		
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					1			
300-0	000 87	B616D		<u> </u>	L	<u> </u>	!	<u> </u>	L]
					T T	T	1			
ca. 60	900	16,0 9,8				ca.27	300	6,0	880	0
	975	6.0	withou	auxi	iary spr	ing	100	19 - 21		
					<u> </u>		300	5,7-6,3	400	0.9-1.1
	950 1000	8,6-10,9	with a	uxilia	ty spring	l	450 600	0,8-3,3		
	1100	2,8- 4,7 0,3- 1,0					000	0 - 1		
					1					
300-	1000 A	8 B616D			· !		•			
ca. 50	1000	16,0				ca.21	300	6,0		
Ca. 50	1050	11.7				Ca.21	300	0,0	980	0
	1100	6,5	withou	t aux	iliary spr	ing	150	19 - 21		
	1050	10 0 12 6	with a	uxilia	ary spring		300 500	5,7-6,3 1,2-3,6	400	0,9-1,1
	1050 1120	10,8-12,6	"'''		 		650	0 - 1		
	1270	0,3-1,0								
		<u> </u>		<u> </u>				<u> </u>		
300-	1150 A	8 B616D				<u> </u>				
ca.53	1150	16,0				ca.19	300	5,5	1140	0
	1200	11,8					300			0,4-0,6
	1250	7,0	with	1	iliary sp	hina		5,9-6,1		
	1200	11,0-12,8] "''''	100 00	7 · · · · · · · · · · · · · · ·	,y	540-	00-2,0	400	0,9-1,0
	1300	2,7-4,6	with	auxil	l ary sprin					
į	1430	0,3-1,0	"''		ary spr m	1				
	L	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>
300-	1325 A	8 B616D			_		_			
ca.68	1325	16,0				ca.24	300	6,0	1210	0
	1400	9,4		1					1310	J U
1	1440	5,0			liamu an-	ina	150	19 - 21		
	1400	0 2 40 5	WITHOU	nc aux	liary spr	ישוק	300 450	5,7-6,3 2,3-4,4	450	0,9-1,1
	1400 1450	8,3-10,5 3,0-4,7			In causa-		650	0 - 1		
	1600	0,3-1,0	with a	ux III id	ry spring					
1		1					1]

B) Se	tting	values for	the go	vernor	•			KHU C	5,0 a	- '
Upper rated s			Intermediate			Lower rated	speed			
Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Torque-c	eeve travel control travel
lever		mm	/ever	rev/min	I .	lever	rev/min	mm	rev/min	mm
1	2	3	14	5	6	7	8	9	10	111
RQ 900	AB 10	054			•				.	
ca. 26	850	16,0-19,0	-	-	_	-	-	-	900	3,2
	900 950	16,0-19,0 9,0-12,5 0,8- 3,8							-	
	930	0,0. 3,0				1				
								ł		
						ļ	İ			
RQ 750	AB 1	054	· · · · · · · · · · · · · · · · · · ·							
ca. 26	720	15,0-18,0		_	_	_	_	_	750	3,4
Ca. 20	750	8,8-11,7 0 - 2,4								
	800	0 - 2,4							-	-
					1					
					İ					
			ļ							
RQV 27	75-132	5 AB799D			To	orque co	ntrol	travel a	= 0,9	am
ca. 68	1375	15,0-18,0	_	-	-	ca.12	200	6,4-8,2	1375	8,3
	1630	0]	İ			400	2,8-4,6	1325	0
ca. 66	1325	15,0-17,5	1				600 750	1,5-3,0	1	1
Ca. 00	1410	7,4-13,0		1			750 850	0 -1,4	500	0,8-1,0
	1490 1600	0 - 8,0								
	1000					Ì				
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En g 6

C. Settings for Fuel Injection Pump with Fitted Governor

Full-lo Contro	e power ad delivery ol-rod stop il temp 40°C (104°F)	Rotational-speed amitation	Fuel deli	very characteristics	Starting Idle switchin	1	intermediate rotational speed Torque-control travel
rev/m	1	rev/min	rev/min	cm ⁹ /1000 strokes	rev/min	cm ⁹ /1000 strokes	rev/min mm
1.	85(115) - 105(4 ⁻	12) - 125(170	1 / 26	50	6	/	10
1.	1325 80,5-82,5	1340) / 20		77,5-8	0,5 100	119-129
2.	79(108) - 100(1: 1325 77,5-79,5	36) - 120(163 1340) / 26	850 850	74,5-7	7,5	119-129
3.	81(110) - 101(13 1250 80,5-82,5	37) - 121(169 1270) / 25	850	77,5-80	0,5	119-129
4.	77(105) - 97(13 1250 77,5-79,5	2) - 116(158) 1270	/ 250	_	74,5-7	7,5	119-129
5.	74(100) - 92(129 1250 72,5-74,5	5) - 110(150) 1270	/ 250	-	71,5-74	1,5	119-129
6.	76(104) - 96(130 1150 78,5-80,5	0) - 115(156) 1170	/ 230	-	77,5-80	0,5	119-129
7.	74(100) - 92(125 1150 74,5-76,5	5) - 110(150) 1170	/ 230	_	74,5-7	7,5	119-129
8.	70(95) - 87(118 1150 70,5-72,5	3) - 105(143) 1170	/ 230	_	71,5-74	1,5	119-129
9.	66(90) - 83(113 1150 66,5-68,5	3) - 100(136) 1170	/ 230	_	67,5-70),5	119-129
10.	70(95) - 87(118 1075 74,5-76,5	3) - 104(142) 1090	/ 215		74,5-77	7,5	119-129
11.	66(90) - 82(112 1075 70,5-72,5	2) - 99(135) / 1090	2150	•	71,5-74	1,5	119-129
12.	63(85) - 79(107 1075 66,5-68,5	7) - 95(129) / 1090	2150	•	67,5-70),5	119-129
13.	66(90) - 82(112 1000 73,5-75,5	2) - 99(135) / 1020	2000	•	73,5-76	5, 5	119-129
14.	62(84) - 78(106 1000 70,5-72,5	5) -94(128) / 1020	2000	850	71,5-74	1, 5	119-129
15.	60 (82) - 75(10 1000 67,5-69,5	90(122) 1020	/ 200	-	58,5-71	, 5	119-129

Checking values in brackets

* 1 mm less control rod travel than col. 2

0

F4-5-6L413R-Power in kW (HP) at engine speed: (Cont.) C. Settings for Fuel Injection Pump with Fitted Governor

engin	e po	wer							
Full-to Contr	ol-ro	elivery 1 stop np 40°C (104°F)	Rotational speed limitation	Fuel deliv	ery characteristics	idle	fuel delivery	Intermed rotational Torque-d travel	speed
rev/m	нп	cm ³ 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	ı	cm ³ /1000 strokes	rev/min	mm
1		2	3	4	5	6	7	8	
16.	<u>60</u>	(82) - 76(103	3) -91(124) /	1800					
	90	74,5-76,5	910		- .		100	119-	129
17.			9 -87(118) /	1800			-		400
	90	0 70,5-72,5	910		<u>'</u>			119-	129
18.			4) - 83(113)	/ 1800				110	400
	90		910		-			119-	129
19.			5) - 76(103) _/ 760	/ 1500	_	_		119-	120
	75			4.4500				113-	
20.	75	(65) - 60(82 0 70,5-72,5	2) - 72(98) 7 760	/ 1500	•	_		119-	129
21			3) - 68(93) /	/ 1500			,		
21.	75		760	1300	-	-		119-	129
F	4	- 5 - 6 L 413	R - A power	output	at speed				
22.	66	(90) - 83(113	3) -100(136)						
	-	40 73,5-75,5	1150					119-	129
23.	63	(85) - 79(107	7) - 95(129)	/ 2150					
	10	55 74,5-76,5	1075			_		119-	129
24.	60	(81) - 75(102	2) - 90(122)	/ 2000					
	99	73,5-75,5	1000					119-	129
25	54	(74) - 69(94	1) - 83(113) /	/ 1800					-
	89	74,5-76,5	900					119-	129
26.	46	(62) - 57(78	3) - 68(93) /	1500					i
	740	73,5-75,5	750				•	119-	129

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 9,6 1 1. Edition

En

PE 6 A 95 D 410 LS 2450

RQV 300-1250 AB 1085 L

Komb.-Nr. 0 400 646 269

supersedes companyTAM

engine. F6L 413 F

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1.95-2.15) mm (from BDC)

		. 45-2.151				
Rotational speed rev/min	Control rod travel	Fuel delivery : cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1250	10,3+0,1	9,2-9,4	0,3(0,6)			
300	7,1-7,3	1,8-2,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s			Intermediate	rated sp	A	Lower rated	speed	Sliding s	leeve travel	
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min 29	Degree of deflection of control lever	rev/min 5	Control rod travel min 4	Degree of deflection of control lever 7	rev/min 6	Control rod travel mm 3	rev/min 10	mm 11
max.	1300	15,2-17,8	-	•	-	ca.12	100 300	min. 8,7 7,1-7,3		0,2-0,5 4,3-4,5
ca. 64	9,3 4,0 1500	1290-1300 1370-1400 0 - 1,0								5,8-5,9 8,1
						3				

Torque control travel a = 0,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle s	very characteristics (5e)	Starting Idle switchin	. •	Torque- travel	Control rod	
rev/min 1	cfh³/1000 strokes	rev/min 49	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm	
1250	91,5-93,5 (89,5-95,5)	1290-1300 *	700 1000	(89,5-96,5)	100	116,5-126,5	250 700 835 1010	10,3+0, 10,7+0, 10,6+0, 10,3+0,	

Checking values in brackets

*1 mm less control rod travel than col. 2 5.84

BOSCH

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 19,0 n

2. Edition

RQV 750 AB 996 L PE 12 A 95 D 610 LS 2453 1 - 4 - 9 - 8 - 5 - 2 - 11- 10- 3 - 6 - 7 - 12 $0 - 15 - 60 - 75 - 120 - 135 - 180 - 195 - 240 - 255 - 300 - 315^{\circ} + 0,5^{\circ}$ $(+0,75^{0})$ supersede 3.83 company: KHD engine: F 12 L 413 F

Komb.-Nr. 0 400 640 094 170 kW / 1500 min⁻¹(1) 194 kW / 1500 min⁻¹(2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC) 1.95-2.15) Rotational speed Control rod travel Control rod **Fuel delivery** Difference **Fuel delivery** Spring pre-tensioning (torque-control valve) cm³/ 100 strokes rev/min cm³/100 strokes cm³/100 strokes mm mm mm 9,5-9,6 0,3(0,6)710 8.0 - 8.25.6-5.7 0.4 - 0.90.3(0.5)300

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection of control	ev/min Control od trave	Control rod (stravel mm rev/min 28	of control	rev/min	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min	Control rod		mm
ca. 27	9,0	750-755 770-785	•	•	-	- 3e	-	-	-	-

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor

1	d stop np. 40°C (104°F) 2	Rotational-speed (20) limitation intermediate speed rev/min (49)	high idle s		idle switchin	. •	Torque- travel	Control cod travel mm
1	2	3	4	5	6	7	8	9
1)750	79,5-81,5 (77,5-83,5)	750-755*	1	•	100	120,0-130,0 = 13,8-14,5 mm RW	•	-
2)750	93,5-95,5 (91,5-97,5)							

Checking values in brackets

* 1 mm less control rod travel than col. 2 5.84

B10

BOSCH

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 MAN 9,2 d

3. Edition

PES 5 A 95 D 410 LS2488

RQ 250/1100 AB839D (1)

LS2488Y RQ 250/1100 AB839D (2)

supersedes 5.76
M A N

company D 2565 M/MF
engine (192 PS -1)

(168 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Rump Settings

Port closing at prestroke

(0.45-1.65)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm 1/100 strokes 3	Difference cm ¹ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,2+0,1	11,8 - 12,0	0,3(0,6)	9,9+0,1	10,0 - 10,3	
250	5,9-6,1	1,4- 1,9	0,3 (0,5	5,9-6,1	1,1-1,7	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

Checkin	ing of slider Full-load speed regulation Idle speed regulation						ed regula	tion		Torque control		
	Setting point			Test spe	cifications	Setting point		Test specifications			0	
ev/min	Control rod travel mm 2	rev/min 3	Control red travel rmm 4	rev/min 5	Control rod travel mm 6	rev/min	Control rod travel rmm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel mm 12	
600	15,6.16,4	600	16,0	1100 1150 1200 1250	15,1-15,4 9,0-14,0 0 - 7,2 0 - 1,5		0	200	6,9-8,1 5,6-7,6 3,3-5,5 0 - 1		15,8-16,0 15,3-15,5	

Torque-control travel on flyweight assembly dimension a

mm

Specificanistion At - 1160

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104 F)	Control rod stop	Fuel deliv	very characteristics	Starting fuel delivery		
rev/min 1	cm³/-1000 strokes	rev/min	rev/min	cm ¹ /-1000 strokes 5	rev/min	cm³/100 Ørokes 7	
1100	117,5 - 119,5 (115,5 - 121,5)		800 500	116,5 - 120,5 (114,5 - 122,5) 114,5 - 108,5 (112,5 - 120,5)	100	116,5 - 126,5 = 13,7-14,3 mm RW	
						./.	

Checking values in brackets

5.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

PRG che	ck Control rod travel	Full-load : Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control red travel		cifications 5 Control rod travel mm	rev/min	Control rod travel mm
600	15,6-16,4	600	16,0	1100 1150 1200 1250	15,1-15,4 9,0-14,0 0 - 7,2 0 - 1,5		0	100 200 300 500	6,9-8,1 5,6-7,6 3,3-5,5 0 - 1		15,8-16,0 15,3-15,5

Torque-control travel on flyweight assembly dimension a

0,2 _{mm}

Speed regulation At 1145-1160 =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F)		Control rod stop 3a	fuel delivery characteristics 3b			Starting fuel delivery Idle speed Control		
rev/min 1	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm		
1100	99,0-101,0		800	100,5 - 104,5 (98,5 - 106,5)	100	119,0 - 124,0		
	(97,0-103,0)		500	95,0 - 99,0 (93,0 - 101,0)	250	6,0 mm RW		
				(93,0 - 101,0)	displace note:			
				: !				

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

19 17 iV 17 17 17 17 17 17 17 17 17 17 17 17 17	10	9	1. 1	rev/min 7	rev/min 6	nod travel mm r 5	rod travel mm 4	rev/min 3		Control rod travel mm 2	
									•		

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp 40°C (104°F)		Control rod stop 3a	Fuel delivery characteristics		33)	Centro	
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5		rev/min	cm ³ /1000 strokes / mm 7
				1			

Checking values in brackets

WPP 001/4 MAN 9,2 d 1

Edition

PES 5 A 95 D 410 LS2488Z

RQ 250/1100 AB839DL

engine D 2565 MSFV 137 kW (186 PS)

Komb.-Nr. 0 400 845 033 1 - 3 - 5 - 4 - 2 je $72^{\circ} + 0.5^{\circ}$ ($+0.75^{\circ}$)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1,45-1,65)

mm (from BDC)

Rotational speed	Control rod travel mm	Fuel delivery cm 1/100 strokes	Difference cm ¹ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,0+0,1	11,7 - 11,9	0,3 (0,6)			
250	5,3-5,5	1,2 - 1,7	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in "

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation		idle spec	ed regula	ation		Torque o	control
	Control rod travel mm	Setting por rev/min 3	Control rod travel rmm	Test spec rev/min 5	cifications Control rod travel mm 6	Setting property of the settin	Control rod travel		cifications Control rod travel mm 10	rev/min	Control rod travel mm 12
600	15,6-16,4	600	16,0	*	1145-1160 1175-1205	1	5,4	250	mind.6,9 5,3-5,5 360 = 2,0	800	11,0-11,1 11,3-11,5 11,5-11,6
			<u> </u>						1160 min	=1	1 mm less control

Torque-contrôl travel on flyweight assembly dimension a 0,2

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever mp 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting	Starting fuel delivery		
rev/min	cm³/-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /100 strokes 7		
1100	116,5 - 118,5 (114,5 - 120,5)		800	114,5 - 118,5 (112,5 - 120,5)	100	120,0-130,0 (117,0-133,0) = 13,5-14,5		
			500	111,5 - 115,5 (109,5 - 117,5)	250	mm RW 6,0 mm RW		
					2.50			

Checking values in brackets

5.84

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WPP 001/4 OMB 8,1 a 1

2. Edition

Festoil-ISO 411

PES 6 A 90 D 410 RS 2494 Komb.-Nr. 0 400 846 396 RO 275/1300 AB 969 DL

0M-Brescia company 8360.05, 200 engine 118 kW (160 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.10-2.30)

mm (from BDBW = 9,0-12,0 mm

Rotational speed rev/min	Control rad travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	13,2+0,1	8,0 - 8,1	0,3(0,45)			
275	8,3-8,5	0,4-0,9	0,45(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation		idle speed regulation			Torque o	Torque control		
	Control rod travel mm	Setting processing pro	Control rod travel mm 4	Test spe rev/min 5	cifications Control rod Itravel mm	ŧ	Control Control rod travel rom 8	rev/min	cifications Control rod travel mm 10	rev/min	Control rod travel mm 12	
900	13,6-15,0	900	14,3	12,2 4,0 1600	1345-1360 1440-1470 0 - 1,0		5,8		min. 7,3 5,7-5,9 480=2,0mm max. 1,0	700 500	13,2 + 0, 13,6+0,2 14,0+0,1	

Torque-contrôl travel on flyweight assembly dimension a

Speed regulation 1345-1360 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever	Control rod stop	Fuel deliv	ery characteristics	Starting t	luel delivery
rest oil tei rev/min 1	mp 40°C (104°F) cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm³/100 G rokes
1300	80,0 - 81,0 (78,0 - 83,0)	-	700	77,5 - 80,5 (75,5 - 82,5)	100	110,0-120,0 (107,0-123,0)
			500	71,5 - 74,5 (69,5 - 76,5)		

Checking values in brackets

5.84

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2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 OMB 8,1 a

Edition

PES 6 A 90 D 410 RS 2494

RQ 275/1300 AB 1034 DL

supersedes 5.81

Komb.-Nr. 0 400 846 426

company OM-Brescia 8360.05.291 103 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDRW = 9.0-12.0 mm

Port closing at prest	roke	(2,1 - 2,3)	11111 (110111 0024)	- 7,0-	1210 11111	
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1300	12 440	7,05 - 7,15	0 3(0 45)			
· L		1	1	ή		
275	8,3-8,5	0,4 - 0,9	0,2(0,4)			
				1		
					1	
-			1			
		I	1	L		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkini	g of slider	Full-load		-		Idle spec	_		cifications	Torque c	ontroi
rev/min	Control rod travel mm 2	rev/min	Control red travel mm	rev/min	Control rod travel mm 6	rev/min	Control rod travel	rev/min	Control rod travel	rev/min 11	Control rod travel mm 12
700	15,6-16,4	700	16,0		1345-1360 1450-1480 0 - 1,0		6,0	275 465	min.7,5 5,9-6,1 505=2,0mm max. 1,0	810 710 600	12,4+0,1 12,6+0,3 13,3+0,1 13,4+0,2

Torque-contrôl travel on flyweight assembly dimension a -

Speed regulation 1,345 - 1360 min⁻¹

1 mm tess control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oi! ten	elivery on ontrol tever np 40°C (104°F)	Control rad stop	Fuel deliv	ery characteristics	Starting	uel delivery
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min	cm ³ /100 strokes 7
1300	70,5 - 71,5 (68,5 - 73,5)	500	700 500	71,5 - 74,5 (69,5 - 76,5) 65,5 - 68,5	-	-
			300	(63, 5 - 70, 5)		

Checking values in brackets

5.84

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WPP 001/4 MAN 16,0 c 2

3. Edition

PE 10 A 95 D 520/5 LS 2501 Komb.-Nr. 0 400 649 204

estoil-ISO 411

RO 250/1150 AB1035 DR

supersede8.80 companyMAN

engine D2530MTXE 265 kW (360PS)

10 - 9 - 4 - 1 - 8 - 7 - 6 - 3 - 5 - 2 0 - 45 - 72 - 117 - 144 - 189 - 216 - 261 - 288 - 333 ° + 0,5° (+0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC) 7...1

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,40,1	11,8 - 12,0	0,3(0,6)			4
250	5,9-6,1	1,5 - 2,1	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Centrel red travel	cifications (4)	Idle spee Setting p rev/min 7	Control red travel	Test spe	cifications Control rod travel	rev/min	Control rod (3)
600	19,2-20,8	600	20,0	10,4	1195-1210	250	6,0	100	min.7,5	1150	11,4+0,1
VH =	max. 46°			4,5	1270-1300			1	5,9-6,1 75=2,0	930 865 600	11,540,3 11,840,2 11,940,1

Torque-control travel 0,2 on flyweight assembly dimension a

Speed regulation: At 1195-1210 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever pp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting fuel delivery Idle speed Control red trav		
rev/min 1	cm³/-1000 strokes 2	sev/min 3	rev/min 4	cm³/~1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm	
LDA 1150	0,5 bar 117,5 - 119,5 (115,5 - 121,5)		LDA 700 LDA 500	0,5 bar 119,5 - 122,5 (117,5 - 124,5) 0 bar 76,5 - 79,5 (74,5 - 81,5)	100 250	170,0-180,0 (167,0-183,0) 6,0 mm RW	

Checking values in brackets

B16

D. Adjustment Test for Manifold Pressure Compensator — 2-

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

_	
ı	က
ı	200
I	7
Į	4
I	
ı	Y
ł	(C)
ł	Ŧ
ı	=
I	0
ł	77
I	X
ı	_
I	

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2501 with 1035 DL	0,50		11,9 - 12,0
		0,26	11,6 - 11,7
		0,18	10,7 - 11,0
		0	10,1 - 10,2

Notes.

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

estoil-ISO 4113

and Governors 2. Edition **En**

PE 10 A 95 D 520/5 LS 2501 RQ 250/1250 AB 1036 DR

supersedes 8.80

Komb.-Nr. 0 400 649 205

company D 2530 MTXE 294 kW (400 PS) engine

1 - 8 - 7 - 6 - 3 - 5 - 2 - 10 - 9 - 4 0 - 27 - 72 - 99 - 144 - 171 - 216 - 243 - 288 - 315° - 0,5° (-0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.70-1.80

mm (from BDC) Zy1. 10

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	12,7+0,	12, 9 - 13,1	0,3 (0,6)			
250	6,4-6,6	1,0 - 1,6	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod	Full-load s Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	•		cifications Control rod travel mm	rev/min	Control rod 3
600 VII =	19,2-20,8 max.46°	600	20,0	11,7 4,5 1500	1295-1310 1365-1395 0 - 1,0	250	6,5	250	min. 8,0 6,4-6,6 380 2,0 max. 1,0	-	-
	control travel ight assembly dimer	nsion a =	-	mm	Spe	eed regula	1 ation: At	1 295 - 1	310 min ⁻¹	L	1 mm less contro rod trave

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever mp. 40°C (104°F)	rer (2) (3a)		ery characteristics (3b)	Cox		
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes/f mm 7	
LDA 1250	0,5 bar 128,5 - 130,5 (126,5 - 132,5)		LDA 750 LDA 500	0,5 bar 122,5 - 125,5 (120,5 - 127,5) 0 bar 76,5 - 79,5 (74,5 - 81,5)	100 250	170,0-180,0 (167,0-183,0) = 18,2-18,8 mm RW 6,5 rm RW	

Checking values in brackets

. 5.84

Testain =

1250

rev/min decreasing pressure - in bar gauge pressure

Testoil-ISO 4113

Pump/governor	Setting	Measurement	Control rod travel	diminution difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
2501 with 1036 DR	0,50		12,7 -	12,8
		0,28	12,4 -	12,5
		0,18	11,2 -	11,5
		0	10,2 -	10,3

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 WPP 001/4 OMB 7,4 b 1 and Governors

2. Edition

PES 6 A 90 D 410 RS 2502

ROV 250-1300 A B 1071 DL

supersedes 80 compandB engine8360.05.300

Komb.-Nr. 0 400 846 442

1 - 5 - 3 - 6 - 2 - 4 0 - 60 - 120 - 180 - 240 - 300 ° 0 + 5 ° (0 + 75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.10-2.30)

mm (from BDC) RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	12,2-12,3	8,4-8,5	0,3(0,45)			
250	9,9-10,1	2,9 - 3,3	0,2 (0,4)			

Adjust the fuel delivery from each outlet according to the values in [

Testoil-ISO 4113

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding sleeve travel	
Degree of deflection of control	rev/min Control rod travel	Control rod travel mrn (28)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm (1)
lever 1	mm 2	3	4	5	6	7	8	9	10	11
ca.66	1350	15,0-17,6				ca.21	100 250	min.11,5 9,9-10,1	570 930	0,4-1,5 3,2-3,8 5,1-5,5
ca.62	11,3 4,0 1600	1340-1350 1465-1495 0 - 1,0				250 - 700	1	340=2,0	1300	7,9

0,2 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil terr				rery characteristics (5a)	Sterting idle switchir	. •	Torque- travel	Control cod
rey/mm	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rav/min	cm³/1000 strokes	rev/min 8	
1300	84,0 - 85,0 (82,0 - 87,0)	1340-1350 *	800 500	82,0 - 85,0 (80,0 - 87,0) 74,0 - 76,0 (72,0 - 78,0)	100	112,0-124,0 (109,0-127,0 = 16,0-16,6 mm RW	1000 700	

Checking values in brackets

* 1 mm less control rod travel than col. 2

①

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 0MB 8,1 b

En

PES 6 A 90 D 410 RS 2502 Komb.-Nr. O 400 846 483 RQV 425-1100 AB 1153 L

supersed 8.82 company 0M engine 8365.05.520

toil-ISC 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	(2.10-2.30)	mm (from 8DC)							
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6				
1100	11,9+0,1	7,8 - 7,9	0,3(0,45							
425	8,0-8,2	0,9 - 1,5	0,2(0,4)							
	l I									
]					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed rev/min	Control rod	_	Intermediate	rated sp	ed Control rad	Lower rated	speed	Control rod	Sliding s	leeve travel
Degree of deflection of control lever	Control rod travel	travel		deffection of control	rev/min 5	mm 4	deflection of control lever 7	rev/min 8	travel mm 3	rev/min 10	mm 11
max.	1140	15,2-17,8	В	•		-	ca. 16		min.9,5 8,0-8,2	400 630	0,8-1,0 4,3-4,5
ca.65		1140-1150 1220-1250 0 - 1,0	0						max.1,0	870 1100	5,8-6,0 8,0
							3				

Torque control travel a = 0,3 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F)		Rotational-speed 20 (imitation intermediate speed	Fuel delic high idle s	rery characteristics 5e posed 50	Starting Idle switching	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1100	77,5-78,5 (75,5-80,5)	1140-1150*	650	75,0-78,0 (73,0-80,0)	100	128,0-148,0 125,0-151,0 = 18,2-18,6 mm RW	500	11,9+0 12,2+0 12,1+0 11,9+0

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 OMB 8,1 b 1

2. Edition

PES 6 A 90 D 410 RS 2502 Komb.-Nr. 0 400 846 484 RQV 300-1050 AB 1157 L

supersedes. 82 companyOM_Fiat engine 8365.05.590 Schlepper

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2.1h-2.30)	mm (from BDC)	mm (from BDC)									
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6							
1050	11,5+0,	7,6 - 7,7	0,3(0,45)										
300	8,2-8,	0,9-1,5	0,2 (0,4)										

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rev/min	Control rod (a)	Intermediate Degree of deffection	ced Control rod travel	Lower rated Degree of deflection	speed	Control rod	Sliding sleeve travel		
	rodtravel		of control	rev/min 5		of centrol lever 7	rev/min 8		rev/min 10	mm 11
max.	1110	15,2-17,8	-	•	-	ca. 20		min. 9,8		1,0-1,2
ca. 64	10,5 4,0	1090-1100 1170-1200					300	8,2-8,4	520 780	4,2-4,4 5,6-5,8
	1300	0 - 1,0				335-440 30	675	max.1,0	1050	7,8

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-root Test oil ten		Rotational-speed (2b) limitation intermediate speed	high idle s	rery characteristics 5e peed 5b cm³/1000 strokes	idie switchir		Torque- travel	Control 5 Control rod travel
1	2	3	4	5	3	7	8	9
1050	76,0-77,0 (74,0-79,0)	1090-1100*	650	730-76,0 (71,0-78,0)		128,0-148,0 (125,0-151,0 =18,2-18,6 mm RW) 500 755	11,5+0, 11,9+0, 11,8+0, 11,5+0,

Chucking values in brackets

* 1 mm less control rod travel than col 2

5.84

C

BOSCH

estoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MAN 9,2 f 3. Edition "

PES 5 A 95 D 320 LS2504

RQ 250/1100 AB917DR (1) company M A N

supersedes 9.76

LS2504Z RQ 250/1100 AB968DR (2) engine

D 2565 MUL (192 PS - 1)

1 - 3 - 5 - 4 - 2 = 0 - 72 - 144 - 216 - 288° ±0,5°(±0,75°)

(168 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1 () c.o.sg p. c.o	(1	,40-1,00)			• •	1 '
Rotational speed	Control rod	Fuel delivery	Difference	Control rod travet	Fuel delivery	Spring pre tensioni (torque control vali
rev/min	mm	cm*/100 strokes	cm '/ 100 strokes	mm	cm 1/100 strokes	mm
1	2	3	4	2	3	6
1100	11,3+0,	11,4 - 11,6	0,3(0,6)	10,1+0,1	9,6 - 9,8	
250	6,4-6,	15 21	0.4(0.5)	E 0 6 1	0,8 - 1,4	
250	0,4-0,	1,5 - 2,1	0,4(0,5)	5,9-6,1	0,6 - 1,4	

Adjust the feel delivery from each outlet according to the values in __f __ __ __ __

B. Governor Settings

917DR (1)

Checkini	g of slider	Full load s	peed re	gulation		Idle spec	ed regula	tion		Torque o	control	
		Setting po	int	Test spe	specifications Setting point			Test spe	cifications	Control rod		
rév/min 1	Control rod travel mm 2	rev/min	Control rod travel rmm 4	rev/min 5	Control rod travel mm	rev/min 7	Control red travel room 8	rev/min 9	Control rod travel mm	11	travel	
600	15,6-16,4	600	16,0		1145-1160 1175-1205 0 - 1,0		5,7	250	mind. 7,2 5,6-5,8 400=2,0 max.1,0	1100 800 500	11,3-11, 11,5-11, 11,7-11,	
	ontrol travel		0,2	mm	Sne	ed regul	ation At	145 -	1160 min	1	1 mm less con rod tra	

on flyweight assembly dimension a C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104 F)	Control rod stop	Fuel deliv	ery characteristics	Starting fuel delivery			
revimin 1	cm ¹ /~1000 strokes	revimin	rev/min 4	cm ¹ /-1000 strokes 5	rev/min	7 mm RW		
1100	114,0 - 116,0 (112,0 - 118,0)		800 500	111,0 - 115,0 (109,0 - 117,0) 108,5 - 112,5	100	13,7-14,3		
			500	(106,5 - 114,5	250	6,5		

Checking values in brackets

5.84

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

(2)

824 En Checking values in brackets

Test Specifications Fuel Injection Pumps 1 WPP 001/4 MAN 16,0 d and Governors 7. Edition

PE10A90D520/5 LS 2515

RQV 250-1250 AB993DR RQ 250/1250 AB832DR ./. RQ 250/1250 AB992DR ./. supersed 80 company MAN engine: 2530 MF

10 - 9 - 4 - 1 - 8 - 7 - 6 - 3 - 5 - 2 0 -45-72-117-144-189-216-261-288-333° ±0,5°(0,75°)

At test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.45-1.65)

mm (from BDC)

Zy1. 10

Rotational speed rev/min	Control red travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1250	11,5-11.	6 10, 1-10,3	0,3(0,45)	11,5-11,	10,3-10,4	
250	9,0-9,2	0,9- 1,5	0,2(0,4)	7,4-7,6	0,9- 1,5	
800/500		C, 4-5 -	0,4(0,55)			

Adjust the fuel delivery from each outlet according to the values in

Testoil-ISO 4113

B. Governor Settings

RQV..993 DR

Upper rated	peed			Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel		
deflection		Control rad (trevel		Degree of deflection		Control rod travel	Degree of deflection		Control rod travel	(
of control lever	rod travel	utu (of control lever	rev/min	mm ④	of control lever	rev/min	mm ③	rev/min		
1	2	3		4	5	6	7	8	9	10	11	
ca.50	1275 1450	14,4-17, 0 - 1	4		-	-	ca.13	100 250 310-3	min.7,2 5,6-5,8 70 = 2,0	200 700 270	0,5-1,2 4,4-4,8 8,3	
ca.48	10,5	1290-13 1365-13						450	0 - 1	2,70		
							39					

Torque control travel a = 0,6+0, finm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (20) fimitation intermediate speed	Fuel deli- high idle s	very characteristics (56)	Starting Idle awitchir	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	trayel mm
1	2	3	4	5	6	7	8	9
1250	102, 4-103, 5	1290 - 1300*	800	95,5- 98,5	100	134, 25-144,25	1250	11,5
	(100, 5-105, 5)			(93, 5-100, 5)	250	7,0 mm RW	900	12,0
			500	90,0- 94,0			500	12,3
1				(88,0- 96,0)	100-	170 (80-190)		./.
	· ·			1				
			1	l	.			

Checking values in brackets

1 mm less control rod travel than col. 2

Checking of slider Full-load speed regulation						idle spe	speed regulation				Torque control		
PRG ched	ck ①	Setting p	oint	Test spe	cifications (4)	Setting	point	Test spe	cifications (5)				
	Control rod travel	rev/min	Control rod travel rorm	Control red travel mm 5	rev/min	rev/min 7	Control red travel mm 8	rev/min 9	Control rod travel mm	rev/min	travel		
600	15,6-16,4	600	16,0	10,5 4,0	1295-1310 1345-1375	1	6,1	100 250	min.7,6 6,0-6,2	-	-		
1250	15,6-16,0							360- 500	20 =2,0 0 - 1				
1500	0 - 1									•			

on flyweight assembly dimension a

Speed regulation At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104 F)	Control rod stop Gain Fuel delivery characteristics		ery characteristics 3b	Starting t	Contre
ev/min	cm*/-1000 strokes	rev/min 3	rev/min	cm*/-1000 strokes 5	rev/min 6	cm*/1000 strokes / mm
1250	101,5 - 102,5 (99,5 - 104,5)		500	78, 0 - 86, 0 (76, 0 - 88, 0)	100 250	129,25 - 139,25 7 mm RW

Checking values in brackets

Testoil ISO 4113

B. Governor Settings

RQ..992 DR

Checkin PRG che	. (\sim 1	Full load : Setting po	oint	Test spec	specifications (4) Setting point				cifications 5	Control rod		
rev/min	Control rod travel mm		rev/min	Control red travel mm	Control rod travel mm	rev/min		rev/min 7	rod travel mm 8	rev/min	travel	rev/min	travel
600	15,6-16,4	1	600	6,0	0,5	1295-	1310	250	6,0	100	min.7,5	1250	11,5-11,6
					4,0	1365-	1395			250	5,9-6,1	1000	11,8-12,0
	.•				1500	0 -	1,0			360-4 500	00 =2,0 0 - 1	600	12,2-12,4
	ontrol travel ght assembly di	men	sion a =	0,35	mm	L	Sp	eed regula		295-1	310 min	!	t mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting Idle spec	fuel delivery ed Control
rev/min	cm ¹ /-1000 strokes	revimin	rev/min	cm ³ /-1000 strokes	rev/min	rod travel
1250	102, 5 - 103, 5 (100, 5 - 105, 5)		800	95,5 - 98,5 (93,5 - 100,5)	100	135,0-145,0 (132,0-148,0) = 18,3-19,3
			500	90,0 - 94,0 (88,0 - 96,0)	250	nm RW 7,0 mm RW

Checking values in brackets

40

WPP 001/4 DAF 8,3 i 3
5. Edition

825

SO 411

PE 6 A 90 D 410 RS 2524 RSV 250-750 A 7 B 2124 L Komb.-Nr. O 400 676 165

companyDAF engine DH

Cold-start test on EP/RSV governor according to Service Information VDT-I-420/114. Specifications apply to test tubing 1 680 750 015.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.30-2.40

mm (from BDC)

RW = 9.0 mm

Εn

Rotational speed		Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)
750	9,4-9,5	3 7,7 - 7,9	0,4(0,55)	2	3	6
250	6,3-6,5	1	0,2(0,4)			
			Port closin 9 and max.	g differe = 4,5-		ontrol-rod travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Control red travel mm	Degree of deflection of control lever		Control rod travel	Degree of deflection		Control rod travel		Control rod
13	4	rev/min 5	mm 6	of control lever 7	rev/min 8	mm 9	rev/min 10	mm 11
0,3-1,0	-		-	ca. 16	250	6,4	-	-
3,25						min.19,0		
,		3,25 80 = 8,4	3,25 80 = 8,4	80 = 8.4	80 = 8.4	3,25 100 250 260-3	3,25 100 min.19,0 250 ** 260-320=2,0	3,25 100 min.19,0 250 ** 260-320=2,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	oad stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	(5a) Idle stop		
Test oil ten rev/min 1	1	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7		travel mm 9	
750	77,0 - 79,0 (75,0 - 81,0)	760-770*	-	•	100	19,5-21,0 mm RW		-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Set idle-speed auxiliary spring at 2,0 mm control-rod travel, then 1/2 turn back.

3.84

BOSCH

Test Specifications Fuel Injection Pumps ① WPP 001/4 OMB 7,4 b 2 and Governors 2. Edition

Festoil-ISO 4113

PES 6 A 90 D 410 RS 2566 Komb.-Nr. O 400 846 435 RQV 300-1400 AB 1053 DL

supersedus 80 compan DMB engine: 8360.04.300

1 - 5 - 3 - 6 - 2 - 4 0 -60 -120-180-240-300° -0,5° (-0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke (2	10-2,30)	mm (from BDC)			
Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	10,8-10,9	7,3-7,4	0,3(0,45)			
300	8,4-8,6	1,1-1,7	0,2 (0,4)			
				İ	1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated ap	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	9	Degree of deflection of control lever	rev/min 5		Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
max•	1400	15,2-17	,8				ca.15	100 300 625-	min.10,0 8,4-8,6 685=2,0	630 1020	0,6-1,0 3,7-4,2 5,3-5,4
ca.59	9,8 4,0 1750	1440-14 1585-16 0 - 1,	15				375 - 475 ③	800	max.1,0	1400	7,3

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) timitation intermediate speed	Fuel delh high idle s	very characteristics 5e peed 5b	Starting idle ewitchir	. •	Torque- travel	Control cod
rev/min	cm³/1900 strokes	rev/min 40	rev/min	cm ² /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	
1400	72,5 - 73,5 (70,5 - 75,5)	1440-1450 *	800 500	66, 5 - 69, 5 (64, 5 - 71, 5) 62, 5 - 65, 5 (60, 5 - 67, 5)		115,0-125,0 112,0-128,0 = 16,2-16,8 mm RW	825 675	10,8-10,9 10,8-11,1 11,0-11,2 11,1-11,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 KHD 6,1 k 3

4. Edition

PES 6 A 85 D 410/3 RS 2592 Komb.-Nr. 0 400 836 028

ROV 300-1250 AB 1188 L

companBF 6 L 913 engine: 118 kW/2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(ort closing at pres		2.15-2.35)	mm (from BDC)			
	Rotational speed	Control rod travel	Fuel delivery		Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm 6
١	1	2	3	4	2	3	0
	1250	12,0+0,1	8,9-9,0	0,3(0,5)			
	300	6,9-7,1	0,9-1,5	0,25(0,4	5)		
			ł	'			
						Í	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated : Degree of deflection of control lever	rev/min Control rod travel mm	Control rod (a travel mm rev/min 21	of control	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s rev/min 10	mm
max.	1290	15,2-17,8	-	-	-	ca. 13	300		325 850	1,5-1,7 4,9-5,1
ca. 65	11,0 4,0	1290-1300 1375-1405				355 -4 70			1150 1400	7,1-7,3 9,9
						②				

Torque control travel a = 0,8

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 20 limitation intermediate speed	Fuel delic high idle t	rery characteristics 50 peed 50	Starting Idle awitchir		Torque- travel	Control rod
rev <i>l</i> min	cm³/1000 strokes .	rev/min 49	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	mm 9
LDA 1250	0,7 bar 88,5-89,5 (86,5-91,5)	1290-1300*	LDA 800 LDA 500	0,7 bar 85,0-88,0 (83,0-90,0) 0 bar 59,0-61,0 57,0-63,0)	100	110,0-120,0 (107,0-123,0) =17,1-17,5 mm RW	500 775	12,0+0, 12,8+0, 12,5+0, 12,1+0,

Checking values in brackets

* 1 mm less control rod travel then col. 2

- 2 -

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

KHD 6,1 k 3

200			
Pum')/governor	Setting Gauge pressure = bar	Measurement Gauge pressure = bar	diminution Control rod travel- difference mm (1)
PES 6 ARS 2592 + RQVAB 1188 L	0,70	0 0,26 0,19	12,8-12,9 10,9-11,1 12,4-12,5 11,9-12,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 RAB 9.7 b

2 Edition

PES 6 A 95 D 420 LS 2595 Komb.-Nr. 0 400 846 514

RQ 200/1100 AB 1094-1 R

superseded. 83 company RABA D 2356 HM 6 U 162 kW

A. Fuel Injection Pump Settings Port closing at prestroke

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

mm (from BDC)

Ort Groom & Gr proof		1,30-6,101				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,3+0,1	12,1-12,3	0,3(0,6)			
200	6,0-6,2	0,8-1,4	0,3(0,5)			
	ļ					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	g of slider	Full-load : Setting po	•	_	cifications (4	Idle spe	_		cifications (5)	Torque control		
rev/min	Control rod travel mm 2	rev/min 3	Central red travel rnrn 4	Central red travel mm 5	zev/min	rev/min	Control rad travel rmm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel	
550 VH =	19,2-20,8 max. 46°	550	20,0	10,3 4,0	1145-1160 1175-1209	200	6,0	100 200 290- 350	min.7,5 5,9-6,1 330-2,0 max.1,0	1100 500 750 855	11,3-11,4 11,9-12,0 11,7-11,9 11,5-11,7	
Torque:C	ontrol travel		0,	3		<u> </u>	1	145-1	160 min-1		1 mm less control	

Torque-control travel on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Idle spee	Control
rev/min 1	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5	rev/min '	can rivousnokes pillim Kill
1100	121,0-123,0 (119,0-125,0)	500	800 500	119,0-125,0 (116,5-127,5) max. 117,0 (max. 119,)	100	17,5-18,1

Checking values in brackets

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5,7 v 2

Edition

PES 6 A 90 D 410 RS 2596

ROY 300-1400 AB 1066-1DL

superseiles. 81 companyDaimler-Benz

OM 352 A engine: 126 kW (171 PS)

Komb.-Nr. 0 400 846 443

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1,95-2,15)Port closing at prestroke mm (from BDQRW=9.0-12.0 mm

	rev/min	Control rod travel mm 2	cm³/100 strokes 3	Difference cm ⁹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	1400	12,4+0,1	7,4-7,5	0,3(0,45)			
'	300	8,9-9,1	0,9 - 1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed	1	Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
deflection	Control	Control rod travel	Genection		Control rod travel	Degree of deflection		Control rod travel		0
	rod travel	rev/min (2s	of control lever	rev/min	mm ④	of control	rev/min	mm ③	rev/min	mm 11
1	2	3	4	5	6	<u> </u>	0	9	10	11
max.	1500	15,2-17,	3 -	-	-	ca. 23	109 300	min.10,5 8,9-9,1		1,2 2,5-2,7 8,6
ca.63	4,0	1440-1450 1580-1610	1			590-660				
	1750	0 - 1,0	<u> </u>			③	L			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter rev/min	d stop np. 40°C (104°F) 2	Rotational speed (2b) limitation intermediate speed rev/min (4a)	high idle s	cm ² /1000 strokes	switchle	. •	Torque- travel rev/min 8	Control 5 Control rod travel mm
LDA 1400	0,7bar 74,0 - 75,0 (72,0 -77 ,0)	1440-1450*	500 LDA 500	0,7 bar 69,0-71,0 (66,5-73,5) 0 bar 54,0-56,0 (51,5-58,5)		73,0-83,0 (70,0-86,0) = 15,8-16,2 mmRW 220 (80-240)	1200	13,1+0,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 v 2

-2-

Testoil-ISO 4113

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6A RS 2596 with AB1066-1DL	0,70	0 0,35	13,6 - 13,7 12,3 - 12,4 13,2 - 13,3
		0,20	12,5 - 12,7

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

estoil-ISO 4113

WPP 001/4 MB 5,7 v 12

3. Edition

PES 6 A 90 D 410 RS 2596 Komb.-Nr. 0 400 876 310 RSV 350-1200 A0B 1148 L

company Daimler-Benz

OM 352 A

supersede 6.83

110 kW (150 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump, Settings

Port closing at prestroke

(1.95-2.15)

mm (from BDC) RW 9,0 - 12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1180	12,0+0,1	7,0 - 7,1	0,3(0,45)			
350	8,6-8,7	1,2 - 1,6	0,2(0,4)			
					1	1
			1			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed rev/min 2		Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	Degree of deflection of control lever	rated spe rev/min 8	ed Control rod travel mm	3 Tor	que control Control rod travel
100se ca.62		0,3-1,0 5,0 1220-1230 1335-1365 0,3-1,7	-	•	-	lose		min.19,0 8,1-8,3 = 2,0	600	12,2-12. 13,2-13. 12,6-12.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop				Starting Idle	fuel delivery	Sa Idle stop	
Test oil tem rev/min 1	c. 40°C (104°F) cm³/1000 strakes 2	Note: changed to rev/min rev/mi 3 4		v/min cm³/1000 strokes 5		cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
LDA 1200	0,7 bar 70,0-71,0 (68,0-73,0)	1240-1250*	LDA 600 LDA 500	0,7 bar 69,0-71,0 (66,5-73,5) 0 bar 51,0-53,0 (48,5-55,5)	100	78,0-88,0 (75,0-91,0) = 16,1-16, mm RW	5	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 v 12

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

			r	
Pump/governor	Setting	Measurement	Control rod travel	diminution
			Common rod ware.	difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)	
			42.0	42.4
PES 6 ARS 2596	0,70		13,0 -	13,1
with AOB 1148 L	[0	11,6 -	11,7
		0,45	12,6 -	12,7
		0,24	12,0 -	12,2
			1	

Notes

estoil-ISO 4113

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testing the hydraulic start-locking device

Locking at Unlocking at

0.75 - 0.85 bar 0.25 - 0.35 bar

40

WPP 001/4 KHD 4,7 c 3. Edition

En

PES 5 A 80 D 410/3 RS 2603 RS 325/1650 A 0 B 2087 L

Komb.-Nr. 0 400 865 023

supersedes 3.83 KHD F 5.1

engine 52

F 5 L 912 54 kW (73 PS) 3000 min-1 (A power output)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,85-2,05)

mm (from BDC)

Festoil-ISO 4113

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm (2)	cml¥100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1500	9,9-10,0	5,1 - 5,2	0,2(0,35)			
325	8,7- 8,9	1,7 - 2,1	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		interm	ediate rate	ed speed	Control- tever deflection in degrees	Lower rev/min 8	rated speed Control rod travet mm	3 To	rque control Control rod travel mm
loose	800	0,3-1,0	-	<u>-1</u>	-	VH max FH ca.	325 100	8,8 min.13,6	-	-
VH ca. 28 49	8,9 4,0 1900	1690-1700 1740-1770 0 - 1,0				18	325 550-590 600	8,7-8,9 = 2,0 max.1,8		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat		uel delivery naractenstics	Starting f	uel delivery 5	4a Idle stop		
Test oil te rev/min 1	cm ² /1000 strokes	Note. changed to) rev/min 3	rev/min	cm\$1000 strokes	rev/min	cm\$1000 strokes	rev/min 8	Control room travel mm	
1490	50,5-51,5 (49,0-53,0)	1690-1700*	-	-	-	-	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaltsbereich KH. Kundendienst. Ktz-Ausrustung. i: 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1: Printed in the Federal Republic of Germany. Imprimé en République Federale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 MAN 15.0 d 2

2. Edition

FE10A95D 520/5 LS 2604

ROV 250-1150AB1183 R

supersedes 9.83 company: MAN

Komb.-Nr. 0 400 649 239

engine

1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315° ±0.5° (±0.75°) All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.65-1.85)

mm (from BDC) Zv1. 10: RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,0+0,1	12,5-12,7	0,35(0,6)			
250	6,9-7,1	1,1 - 1,6	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Sliding	leave travel
Degree of deflection of control lever	rev/min Control rodtravel mm	mm .	19 (29	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	0
1	2	3		4	5	6	7	8	9	10	11
max.	1190	15,2-17,	8	-	-	-	ca.12	100	min.8,5	200	0,5-0,7
ca.62	11,0 4,0 1400	1190-120 1280-131 0 - 1,	0						6,9-7,1 160 =2,0 1	000	4,5-4,7 6,5-6,9 8,6-8,9
							3a				

Torque control travel a = 0.5

C. Settings for Fuel injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli high idle	very characteristics (5e)	Idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cm³/1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes	rev/min 8	travel mm
1150	124,5-126,5 (122,5-128,5)	1190-1200*	650 500	113,5-117,5 (111,5-119,5 max. 118,5 (max. 120,5)	100	14,9-1 <i>5</i> ,5 mm RW	500 1000	1 2,0+0, 1 2,5+0, 1 2,4+0, 1 2,0+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

BOSCH

40

WPP 001/4 KHD 1 g 8

3. Edition

En

PES 4 A 85 D 410/3 RS 2610 RSV 325-1150 A 8 B 2163 L

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Komb.-Nr. 0 400 864 055

A 8 C 2163 L

supersedes 9.83 KHD

engine

F 4 L 913 55 kW (75 PS)

/ 2300 min⁻¹
Tractor DX 80

.

Identif. S 16

A. Fuel Injection Pump Settings

2,5-2,6
Port closing at prestroke (2,45-2,65)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,3+0,1	6,8 - 6,9	0,3(0,45)			
325	9,1-9,3	1,5 - 1,9	0,2(0,4)			,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	liate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 9	rque control Control rod travel mm
loose		0,3 - 1,0 4,5	-	-	-	ca.19	325 100	8,7 min.19,0	1	11,3+0,1 12,1+0,1
ca.55	10,3 4,0 1400	1190-1200 1245-1275 0,3-1,7					325 470-530	9,1-9,3 = 2,0		11,8+0,2 11,6+0,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed limitat Note: changed to)		uel delivery naracteristics	Starting fuel delivery 5 Idle		4a) Idi	e stop Control rod travel
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm¥1000 strokes	rev/min	cm%1000 strokes	rev/min	mm
1	2	3	4	5	- 6	/	8	9
1150	68,0-69,0 (66,0-71,0)	1190-1200*	800	65,0-67,0 (63,0-69,0)	-	-	-	-
			500	58,0-61,0 (55,5-63,5)				:

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4 KDH 1 g 4

2. Edition

En

PES 6 A 85 D 410/3 RS 2611 Komb.-Nr. 0 400 866 111 RSV 325-1200 A0B 2148 L A0C 2148 L supersedes company

engine

9.82 KHD F 6 L 913

Tractor DX120-S

21 84 kW (114 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,45-2,6 (2,45-2,65)

mm (from BDC)

1	2400	min-1

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cml/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	11,3+0,1	6,9 - 7,0	0,3(0,45)			
325	8,4-8,6	0,9 - 1,5	0,2(0,4)			
			<u> </u>			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	w	rque control Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca.30	325	8,5	1200	11,3-11,4
	X =	4,0				•			975	11,6-11,9
ca.54	10,3 4,0 1425	1240-1250 1315-1345 0,3-1,7					325 450-510	8,4-8,6 = 2,0**	500	11,8-11,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

-10		ii-load stop emp 40°C (104°F)	Rotational- speed limitat	11.3411	el delivery aracteristics	Starting fidle	uel delivery 5	43 idi	e stop Control rod travel
re 1	w/min	cm ⁹ /1000 strokes 2	changed to .) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm\$1000 strokes 7	rev/min 8	mm 9
1	1200	69,5-70,5 (67,5-72,5)	1240-1250*	800	63,5-65,5 (61,5-67,5)	-	. -	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

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LAS.

WPP .001/4 SCL 7.4 b 3. Edition

estoil-ISO 4113

PES 6 A 95 D 410 RS 2614

Komb.-Nr. 0 400 876 303

RSV 325-1100 A 1 B 2111 L

supersed 6.83

A 1 C 2111 L company Schlueter SDMT 110 W 6

73,6 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,75-1,95) 1,80-1,90

mm (from 80%) RW 9.0 - 12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ^{-/} 100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm //100 strokes 3	Spring pre-tensioning thorque-control valves mm 6
1100	12,6+0,1	10,8 - 11,0	0,3(0,6)			
325	7,9-8,1	1,2 - 1,8	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	rque control Control rod travel mm	
loose	800 X =	0,3-1,0 5,0	-	-	-	ca. 23	325 100	7.5 min.19.5	l	12,6-12,7
ca. 59	1220-12	150 =11,6 250 = 4,0 1,3-1,7					325 550 - 610	7,9-8,1		13,0-13,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ill-load stop	6 Rotational- speed limitat		el delivery paracteristics	Starting fi Idle	uel delivery 5	4a) Idi	e stop Control rod
	cm ¹ /1000 strokes	changed to 3 rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm#1000 strokes 7	rev/min 8	travel mm 9
1100	108,0 - 110,0 (106,0 - 112,0)	1140-1150*	500	102,5 - 105,5 (100,5 - 107,5)	100	19,5-21,0 mm RW	-	-
								<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP001/4 SCL 7.4a 2. Edition

Εn

PES6A95D410RS2614

RSV325-1100A1B2177L

Lomb.-Nr. 0 400 876 315

V105155 P

supersedes

10.82

company

Schlüter SDMT 112 W6 Schlepper

110kW (150PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.75 - 1.95)

mm (from BDC) bei 9.0-12.0mm RW

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
12,5+0,	10,4-10,6	0.3(0,6)			
8,7-8,	2,4- 3,0	0,3(0,5)			
				1	
	travel mm 2	travel mm cm³/100 strokes 2 3 12,5+0,1 10,4-10,6	travel cm ³ /100 strokes cm ³ / 100 strokes 2 3 4 12,5+0,1 10,4-10,6 0,3(0,6)	travel cm ³ /100 strokes cm ³ / 100 strokes mm 2 12,5+0,1 10,4-10,6 0,3(0,6)	travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed		rated spe		3 Tor	que control
Degree of deflection of control lever		Control rod travel mm	Degree of dellection of control lever	rev/min	Control rod travel mm	Degrae of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0 =3,75	-	-	•	ca.22/	325	8.3	1100 500	12,5+0, 13,1+0,
	 	-3,73					100 325	min.19,9		12,7+0.
ca.55	11,5		•					605=2.0		
(5)	1380	1215-1245 0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ad stop	6 Rotational- speed limitat 3a Fuel delivery characteristics			Starting Idle	fuel delivery	5a Idle stop		
Test oil temp rev/min	o 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min rev/min 3 4		cm ³ /1000 strokes 5	rev/min cm³/1000 strokes 6 7			travel mm	
LDA 1100	0,7 bar 104,0-106.0 (102,0-108,0)	1140-1150*	LDA 700 (LDA 500	0,7 bar 108,5-111,5 106,5-113,5) 0 bar 73,5-76,5 (71,5-78,5)	100	179,5-189,5 176,5-192,5 = 19,5 ~ 21,0 mm RW	•)	-	

? Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminu⊋on Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES6ARS2614	0,35		
withA1B2177L		0,70	12,4 - 12,5
		0	13,1 - 13,2
		0,16	11,4 - 11,5
			11,5 - 11,7

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 EIC 2,9 c 4

3 Edition

PES 3 A 90 D 320 RS 2626 Komb.-Nr. 0 400 873 036

RSV 300-975 A 1 B 2171-5 R A 1 C 2171-5 R EDL 3-2 40 kW

1 - 3 - 2 je 120°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,2-2,3 Port closing at prestroke (2,15-2,35) mm

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ⁴ 100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm*/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
975	11,3+0,1	7,7-7,8	0,25(0,5)			
300	7,9-8,1	1,5-2,5	0,2 (0,45)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travet mm		Intermediate rated speed		Control lever deflection in degrees	Control lever dellection in degrees		rev/min	rque control Control rod travel mm	
1	2	3	4	5	6	7	8	9	10	11
	800	0,3-1,0	-	-	-	ca. 26	300	7,5	-	-
loose	X =	5,0					100	min.19,5		
ca. 54	10,4 4,0 1235	1015-1025 1070-1100 0,3-1,7					300	7,9-8,1 70-2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

129	emp 40 C (104 F)	Rotational- speed limitat Note changed to)	11381	el delivery aracteristics	Starting f	uel delivery 5	4a Idi	e stop Control rod travel
rev/min	cm //1000 strokes	rev/min	rev/min 4	cm ¹ /1000 strokes	rev/min	cm v1000 strokes 7	rev/min 8	mm 9
975	77,0-78,0 (75,0-80,0)	1015-1025*	600	68,0-70,0 (65,5-72,5)		128,0-138, (125,0-141, = 19,5 - 21,0 mm RW	0 - 0)	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. • 1980 by Robert Bosch GmbH, Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprimé en République Fedérale d Allemagne par Robert Bosch GmbH.

WPP 001/4 FOR 4.2 h

Edition

En

PES 4 A 90 D 210 RS 2627 Komb.-Nr. 0 400 864 053 RSV 350-1300 AOB 2145 L AOC 2145 L

supersede6 . 82 company Ford-GB 254 NA 66 kW (90 PS)

At port closing the locating pin must engage in the slot of the pointer.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDdbei 9.0-12.0 mm RW

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm 6
1250	13,5+0,1	7,4 - 7,5	0,3(0,45	-	3	•
	-		·i			
350	7,2-7,4	0,7 - 1,3	0,2(0,4)		1	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	•		\sim	rated spe		3 701	que control
Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control	tomic	Control rod travel	rev/min	Control rod travel
lever	rev/min 2	mm 3	lever 4	rev/min 5	6 6	lever 7	rev/min 8	mm 9	10	11
loose	800	0,3-1,0	-	-	-	ca.37	350	6,8	-	-
10036	X =	3,5					100 350	min.19,0 7,2-7,4		
Ga.71	12,5 4,0 1705	1365-1375 1540-1570 0,3-1,7					570-	630 = 2,0 max. 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop	6 Rotational- speed limitat		el delivery tracteristics	Starting Idle	fuel delivery	Sa) idio	e stop
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes	rev/min cm³/1000 strokes 6 7		rev/min 8	Control rod travel mm 9
1250	73,5-74,5 (71,5-76,5)	1365-1375*	-	-	100	76,0-90,0 (73,0-93,0) = 19,0- 21,0 mm RW		
	Cold-start de	vice: unlate	hing	speed from st	rting	at 800-100	min/	1.

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoliso 411

WPP 001/4 FOR 5,9 d
5. Edition

E'n

PES 6 A 90 D 210 RS 2628 Komb.-Nr. 0 400 866 104 RSV 325-1200 AOB 2140 L AOC 2140 L supersed • 83 company Ford

engine Dover 363 T/C

At port closing the locating pin must engage in the slot of the pointer.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,65-2,85)

mm (from BDC)

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1175	11,5+0,1	8,4 - 8,5	0,3(0,45)			
350	5,1-5,3	0,5 - 1,1	0,2(0,4)			
				ľ		:
	1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	raled speed rev/min 2		Intermediate Degree of deflection of control lever		Control rod travel mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	Control rod travel	que control Control rod travel mm
100se ca. 67	800 X = 10.5 4.0 1540	0,3 - 1,0 4,0 1240-1250 1375-1405 0,3 - 1,7	-	-	-	ca. 38	350 100 350 490-5 625	4,7 min.19,0 5,1-5,3 50= 2,0 max. 1,0	-

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	6 Rotational- speed limitat		el delivery racteristics	Starting Idle	fuel delivery	5a Idle stop		
Test oil temp rev/min 1	40°C (104°F) cm³/1000 strokes	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
LDA ∹<1175	0,7 bar 835-84,5 (81,5-86,5)	1240-1250 *	500	0 bar 49,0 - 51,0 47,0 - 53,0)	100	76,0 - 90,0 73,0-93,0) = 19,0-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

FOR 5,9 d

Test at n =

1175

rev/min decreasing preseure - in bar gauge pressure

-2-

F		
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Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2628 withAOB 2140 L	0,7	0	11,5 - 11,6 10,1 - 10,2
			11,1 - 11,2
		,	

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 FIA 5,5 d 3. Edition

PES 6 A 90 D 410 RS 2633 Komb.-Nr. O 400 846 494 ROV 300-1500 AB 1165 L

mm (from BDC)

supersede.83 companyFiat engine 8060.04.662 80.8 kW

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke .15-2.35 Control rod Spring pre-tensioning (torque-control valve) **Fuel delivery** Difference Control rod **Fuel delivery** Rotational speed cm³/ 100 strokes cm³/100 strokes mm rev/min шm cm³/100 strokes 1500 9,1-9,2 5,3 - 5,40,3(0,45 0.9 - 1.50.2(0.4)300 8,2-8,4

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
deflection	rev/min Control	Control rod travel	(10)	Degree of deflection		Control ro	od	Degree of deflection of control		Control travel	rod		0	
of control lever	rod travel	ten/wiu	(20)	of control lever	rev/min	mm	•	lever	rev/min	шш	3	rev/min		
1	2	3		4	5	6		7	8	9		10	11	
max.	1530	15,2-17	,8	-	-	-		ca. 17		min.		250	1,1-1,3	
		4444		†		ł				8,2		670	4,5-4,8	
ca. 59	-	1540-15				1		1	600-6	60 =	2,0	1080	6,0-6,2	
	4,0 1800	1645-167 0 - 1						330-430	800	max.	1,0	1500	8,4	
								39						

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes		intermediate appeal		Starting idle switchir rev/min	ng point	Torque-control 5 travel Control roc travel rev/min mm		
1500	52,5-53,5 (50,5-55,5)	1540-1550*	500	38,5-40,5 (36,0-43,0)		(65,0-81,0) = 13,2-13,6	1500 500 930 1130	9,1+0,1 9,6+0,1 9,4+0,2 9,1+0,3

Checking values in brackets

1 mm less control rod travel than col. 2

WPP 001/4 ETC 3,9 c 4. Edition

PES 4 A 90 D 320 RS 2634 RSV 300-1025 A 1 B 2153 R

1 - 2 - 4 - 3 je $90^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

Komb.-Nr. 0 400 824 233

supersedes .83

company Eicher

EDL 4-2

65 kW (88 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.15-2.35)

mm (from BDC), RW=9.0 - 12.0 mm

		2413-24337								
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)				
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm				
1	2	3	4	2	3	6				
1025	12,6+0,1	8,1 - 8,2	0,2(0,45							
300	10,9+0,2	4,4 - 4,9	0,2(0,4)							
			i							

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed						\sim	que controt		
Degree of deflection of control lever		Control rod travel mm	Degree of dellection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
	003	0,3 - 1,0	-	-	•	ca. 16	300	10,5	1025	12,6+0,
loose	y =	2,25				1			500	13,2+0,
	X =	7.36)	ļ			l	300	0,9-11,1	880	12,9+0,
ca. 46	11.6	1065-1075					400-4	60=2,0		
(3)	4.0 1260	1095-1125 0,3-1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad slop	6 Rotational-speed limitat. 3a Fuel delivery characteristics			Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	p 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm³/1000 strokes	rev/min 6	cm //1000 strokes	rev/min	Control rod travel mm 9	
1025	81,0-82,0 (79,0-84,0)	1065-1075*	750 500	83,5-86,5 (81,5-88,5) 77,0-79,0 (75,0-81,0)		19,5-21,0 mm RW	-	•	

Checking values in brackets

1 mm less control rod travel than col 2

40

WPP 001/4 EIC 2,9 d 2. Edition

En

PES 3 A 80 D 320 RS 2650 Komb.-Nr. 0 400 873 031

RSV 300-1050 A1B 2171-1 R A1C 2171-1 R supersede.9.83
company Eicher
EDL 3-3 (-6)

1 - 3 - 2 je 120° - 0,5° (+ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

47.

2,2 - 2,3 (2,15-2,35)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm 1/100 strokes	cm ^{-/} 100 strokes	mm	cm ^{-/} 100 strokes	mm
1	2	3	4	2	3	6
1050	8,7-8,8	4,7-4,8	0,2(0,35)			_1
300	7,9-8,1	2,4-3,0	0,2(0,3)			
		ł	1	1	1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rort travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	1 3 /	rque control Control rod travel mm
loose	800 x =	0,3-1,0 6,0	-	-	-	ca.30	300 100	7,5 min.19,5	1050 500 825	8,7-8,8 9,7-9,8 9,2-9,4
ca.61	7,7 4,0 1290	1090-1100 1125-1155 0,3-1,7					300 430-490	7,9-8,1) = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uil load stop emp 40·C (104 F)	6 Rotational- speed limitat		uel delivery paracteristics	Starting f	uel delivery 5	43 Idi	e stop Control rod
rev/min	cm 71000 strokes 2	changed to 1 rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min 8	travel mm 9
1050	47,0-48,0 (45,5-49,5)	1090-1100*	500	45,5-48,5 (44,0-50,0)	100	19,5-21,0 mm RW	_	-

Checking values in brackets

* 1 mm less control rod travel than col. 2



WPP 001/4 EIC 3.9 f

PES 4 A 80 D 320 RS 2651 Komb.-Nr. 0 400 874 235 RSV 300-1075 A1B 2175 R A 1 C 2175 R

1 - 2 - 4 - 3 je $90^{\circ} - 0,5^{\circ} (-0,75^{\circ})$

supersed@.83 company Eicher engine EDL 4-1

3. Edition

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod	Fuel delivery		Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	travel mm 2	cm³/100 strakes 3	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1075	10,5+0	1 6,2-6,3	0,2 (0,3	5)		
300	9,4-9,6		0,2 (0,3			
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe					3 Torque control		
Degree of deflection of control lever	rev/min	travel	Degree of deffection of control lever	rev/min	Control rod travel mm	Degree of deflection of control tever	rev/min	Control rod travel mm	rev/min 10	travel mm	
1 2000	800	0,3-1,0	-			ca. 29	300	9,0	1075	10,5+0,	
lose	X =						100	min 19,5	500	11, +0,	
ca. 61	9.5 4.0 1330	1115-1125 1165-1195 0,3-1,7	' 				300 450-5	9,4-9,6 10 =2,0	850	10,9+0,	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	Sa) Idle	stop
Test oil tem rev/min	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1075	62,0-63,0 (60,5-64,5)	1115-1125*	600	64,5-66,5 (63,0-68,0)	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 EIC 3,9 g 1 3. Edition

n

PES 6 A 80 D 320 RS 2652 Komb.-Nr. 0 400 876 317 RSV 300-1150 A 0 B 2001-2 R A 0 C 2001-2 R supersede 10.83
company Eicher
engine EDL 6-2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,10-2,20 12 1-2 31

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm*/100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm:/100 strokes 3	Spring pre tensioning (forque-control valve) mm
1150	12,0+0,1	7,8 - 7,9	0,25(0,4)			_
300	8,3-8,5	2,0 - 3,0	0,2(0,35)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rate	d speed	Control- lever dellection in degrees 7		rated speed Control rod travel mm	(0)	rque control Control rod travel mm 11
loose	800 x =	0,3-1,0 4,75	•	-	-	ca. 25	100	7,9 min. 19,5	1	-
ca. 49	11,0 4,0 1430	1190-1200 1285-1315 0,3-1,7					300 450-5°	8,3 - 8,5 0 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ill-load stop	6 Rotational- speed limital		uel delivery paracteristics	Starting t	uel delivery 5	4 8) Idi	e stop (Control roo
Test oil te rev/min 1	cm·/1000 strokes 2	Note changed to 1 rey/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm v1000 strokes 7	rev/min 8	travel mm 9
1150	77,5-78,5 (76,0-80,0)	1190-1200*	600	71,0-73,0 (69,0-75,0)		103,0-113, 100,0-116 = 16,2 - 16,8 mm R	.0)	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaltsbereich KH. Kundendienst. Klz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic 61 Germany Imprimé en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

2

Test Specifications Fuel injection Pumps 2 and Governors

40

WPP 001/4 RAB 9,7 c

2. Edition

<u>En</u>

PES 6 A 95 D 410 RS 2653 Komb.-Nr. 0 400 846 495 RQ 200/1100 AB 1167 L

supersedes 9 · 83
company RABA
engine D 2156 MT/MTK/
MTN 6

TestoitiSO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,65-1,85) mm (from BD&W=9,0-12,0 mm

Rotational speed rev/min	travel	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	12,6+0,1	12,7-12,9	0,3 (0,6			
200	6,3-6,5	0,9-1,5	0,3 (0,5			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of s PRG check Con trave rev/min 1 2	rol rod	Full-load s Setting po rev/min 3	*	•	rev/min	Idle spec Setting p rev/min 7	point Central red travel	Test spe	cifications 5 Control rod travel mm	Torque o rev/min 11	Control rod (3)
	9,2-20,6 x. 46°	600	19,9		1145-1160 1190-1220		6,4	200 320-3	min.7,6 6,3-6,5 60=2,0 max.1,0	600 810	12,6-12,7 13,7-13,8 13,4-13,6 12,8-13,1

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7	
LDA 1100	0,7 bar 126,5-128,5 (124,5-130,5)	•	LDA 700 LDA 500	0,7 bar 135,0-138,0 (133,0-140,0) 0 bar 82,5-84,5 (80,0-87,0)	100	156,5-166,5 153,5-169,5) =17,2-17,4 mm RW	

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

rev/min decreasing pressure – in bar gauge pressure

500 diminution
Control rod travel Measurement Pump/governor Setting mm (1) Gauge pressure = Gauge pressure = bar 13,7-13,8 10,4-10,5 12,8-12,9 11,2-11,4 PES 6 A..RS 2653 0,70 +RQ..AB 1167 L 0,24 0,12

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

RAB 9,7c

-2-

35

En

40

WPP 001/4 MWM 3,1 b
2. Edition

E۳

PES 3 A 90 D 320/3 RS 2658 Komb.-Nr. 0 400 863 008

RSV 325-1500 A2B 505-2 R

supersede 9 • 83
company MWM
D 226 B-3

1 - 2 - 3 ie $120^{\circ} \div 0.5^{\circ} (\div 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,95-3,05 Port closing at prestroke (2,90-3,10)

estoi-150 4113

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ^{1/100} strokes 3	Difference cm ^{-/} / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1500	10,5+0,1	9,0-9,1	0,3(0,45)			
325	6,4-6,6	1,1-1,7	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 to	rque control Control rod travel mm
loose	800 x =	0,3-1,0 5,5	-	-	-	ca.27	325 100	6,0 min.19,5	-	-
ca.66	9,5 4,0 1780	1540-1550 1615-1645 0,3-1,7					325 460 -	6,4-6,6 520=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b f	ull-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting t	uel delivery 5	4a Idle stop		
Test oil to rev/min	cm ¹ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ^{1/1000} strokes 5	rev/min	cm ⁻ /1000 strokes 7	rev/min	Control rod travel mm 9	
1500	89,5-90,5 (87,5-92,5)	1540-1550*	-	-		131,0-141, 128,0-144, = 19,5- 21,0 mm RW))	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

5.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

4. 1990 by Robert Bosch GmbH. Posifach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

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WPP 001/4 MWM 4,1 b
2. Edition

En

PES 4 A 90 D 320/3 RS 2659

RSV 325-1500 A2B 505-2 R

supersede \$.83

Komb.-Nr. 0 400 864 057

ompany D 266 B-4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,95-3,05 Port closing at prestroke (2,90-3,10)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm/100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm	Fuel delivery cm·/100 strokes 3	Spring pre tensioning (forque control valve) mm
1500	10,5+0,1	9,0-9,1	0,3 (0,45)			
325	6,4-6,6	1,1-1,7	0,2 (0,4			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

esica-130 4113

1 Uppe	r rated speed	rev/min	Interme	diate rated	speed	Lower rated speed			3 forque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever dellection in degrees ?	rev/min	Control rod travel mm	rev/min	Control rad travel mm	
loose	800	0,3-1,0	-	-	-	ca.27	325	6,0	-	-	
10036	x =	5,5					100	min.19,5			
ca.66	9,5 4,0 1780	1540-1550 1590-1620 0,3-1,7					325 460-5	6,4-6,6 20 = 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop	Rotational- speed limital Second Fuel delivery characteristics			Starting fuel delivery 5 48 idle stop			
Test oil to	emp 40°C (104°F) cm*/1000 strokes	Note changed to) rev/min	rev/min	cm/1000 strokes	rev/min	cm //1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	19
1500	89,5-90,5 (87,5-92,5)	1540-1550*	-	-		131,0-141 (128,0-144 = 19,5- 21,0 mm RW	,0)	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

BOSCH

Geschaftsbereich KH. Kundendienst. Klz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

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WPP 001/4 MWM 6,2 e

2. Edition

Εn

PES 6 A 90 D 320/3 RS 2660

RSV 325-1500 A 2 B 505 - 2 R

supersedes 4.83

company MWM

Komb.-Nr. 0 400 866 112

engine D 226-6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,95-3,05

Port closing at prestroke (2,90-3,10)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ^{-y} 100 strokes 3	Difference cm ^{-//} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm 4100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1500 325	10,5+0,1 6,4-6,6	9.0 - 9.1 1,1 - 1,7	0,3 (0,5) 0,25(0,45			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	r rated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7.		rated speed Control rod travel mm 9	1 (0)	rque control Control rod travel mm
loose	800 x =	0,3-1,0 5,5	-	-	-	ca. 27	325 100	6,0 min.19,5	-	•
ca. 66	9,5 4,0 1780	1540-1550 1615-1645 0,3-1,7					325 460 -	6,4-6,6 520=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat Note changed to)	Fuel delivery characteristics		Starting fidle	uel delivery 5	•	Control rod travel
1	2	3	4	5	6	7	8	9
1500	89,5 - 90,5 (87,5 - 92,5)	1540-1550*	•	-	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 FIA 5.5 f 3. Edition

PES 6 A 80 D 410 RS 2663 Komb.-Nr. 0 400 846 499

RQV 300-1350 AB 1175 L

Fiat

8060.24.661

90.5 kW

47 47

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)RW = 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1350	12,3+0,1	6,7-6,8	0,25(0,35			
300	5,9-6,1	0,9-1,5	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated a	speed		Intermediate	rated ap	eed	Lower rated	speed		Sliding s	leeve travel
deflection	rev/min Control	Control rod (a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
of control lever	rod travel	mm rev/min 20	lever	rev/min	mm (4)	lever	rev/min	mm ③	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1440	15,2-17,8	-	-	-	ca.10	100	min.7,5	250	0,2-0,5
ca.59	11,3	1390-1400				i i	300	5,9-6,1	550	3,0-3,5
	4,0 1650	1520-1550 0 - 1.0				350-450	920	max.1,0	1000 1550	5,2-5,4 9 , 7
}		·				i			i	
				L		3				

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

,	d stop np. 40°C (104°F) 2	Kmitation intermediate speed	ite speed		idie switchir	ng point	Torque-control 5 travel Control ro travel	
rev/min	cfh³/1000 strokes	rev/min	rev/min	CM-71000 strokes	revimin	cm³/1000 strokes	rev/min	mm 9
LDA 1350	0,7 bar 66,5-67,5 (65,0-69,0)	1390-1400*	LDA 800 LDA 500	0,7 bar 59,0-61,0 (57,0-63,0) 0 bar 39,5-41,5 (37,5-43,5)	100	110,0-130,0 (107,0-133,0)	-	•

ecking values in bracketi

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

FIA 5,5 f

Test at n =

1350

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	r Gauge pressure = bar	mm (1)
PES6ARS2663	0,70	ه.	12,3 - 12,4
+ RQVAB1175L		0,27	12,0 - 12,1
		0,23	11,2 - 11,4
		0	10,8 - 10,9

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4

3. Edition

PE 6 A 100 C 320 RS 3008 EP/RSV 300-1150 A1B489DR

supersedes

PE 8 A 100

RS 3009 EP/RSV 300-1150 A1B489DR

MWM

A1C489DR

D/TD 232 - 6 engine

Instructions P. 3

D/TD 232 - 8

ROV 300/550-750 AB 660 R, 871 R
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.0 + 0.1

mm (from BDC)

Festoil-ISO 4113

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm 3 /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,2	0,4			
200	6 12 9	3,2 - 4,2 12,3 - 13,4 3,4 - 4,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

EP/RSV .. 489DR

1 Uppe	er rated speed		Intern	nediate rai	led speed	(4)	Low	er rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	<u> '</u>	8	9	10	11
ca.66	1150	16,0	ļ			ca.28	300	6,0		
	1200 1250	11,4 5,8	with _spri		uxiliar	V	100 300	19 - 21	1	
		6,0-9,3	7				350	5,7-6,3 3,5-4,7	See i	ote
②	1280 1400	1,8-4,0 0,3- 1					400 500	0,6-3,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

changed to) travel	6	ill-load stop	6 Rotational- speed limitat		iel delivery naracteristics	Starting (luel delivery 5	49 Idi		
	rev/min	1		rev/min	cm ³ /1000 strokes	rev/min	cm#1000 strokes	rev/min	travel mm	
	1	2	3	4	5	6	7	8		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV .. 660R, 871R**

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	3 Torrev/min	Control rod travel mm
ca.66	750 770 790	14,8-17,8 9,0-14,0 3,5-10,5	ca.34	600 650	13,7-15,5 8,5-10,0 4,5-7,0		250 300 350	6,8-8,0 4,5-7,0 3,6-4,0		
(5)	800 840	0 - 8		720	0		550 630	1,8-4,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full li	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting	fuel delivery	(5a) Idli	stop
Test oil tem rev/min 1	cm³/1000 strokes	Note changed to rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9 .
Instr	ctions P. 4-	4			100	15,7-16,3 mm RW		
			69		300	5,3-5,7 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	ed Control rod travel mm	4 Lowe Degree of deflection of control lever	rated spe rev/min 8	Control rod travel	que control Control rod travel mm 11
							·	
(5)			-					

The symbolic depote the sequence of the tests

2 Full-lo	oad stop	6 Rotational- speed limitat		el delivery eracteristics	Starting Idle	fuel delivery	stop
Test oil tem	p 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ³ /1000 strokes	rev/mm	cm³/1000 strokes	Control rod travel mm 9
		İ					

** Governor ..871R = electromagnetic starting fuel delivery unlocking (24 volt)
Switch on magnet for max. 15 sec. when testing.

The nameplate described at \underline{MWM} 1.5 a has recently been extended to 2 speeds and 2 deliveries - in column n = (speed) and Q = (full-load delivery) for more accurate setting in the case of governors with torque control.

The following points apply, deviating from WPP 001/4, Supplement 1, setting the governor and the pump:

- (2) Setting according to nameplate n = (speed 1) and Q = (delivery 1); or according to columns 1 and 2
- (3) Is contacted until change of control-rod travel, as read under (2), or (with new nameplate) until the 2 delivery is reached at speed 2; or according to columns 4 and 5
- (6) Is adjusted according to nameplate n = (speed 1 +
 20 rpm) or column 3

For repairs on Fendt tractors on which the new nameplate (with 2 speeds and 2 deliveries) has not yet been introduced, the full-load data apply - ordered according to engine types -

according to the above note

In the case of new replacement pumps from Stuttgart warehouse there is no spring retainer. Send for from MWM according to old nameplate.

Cam sequence and angular spacing:

PE 8 A:

Testoil-ISO 4113

engine po Full-load of Control-ro Test oil te	selivery	Rotational-speed limitation	Fuel deliv	rery characteristics	Starting Idle switchin	fuel delivery ig point	Intermed rotationa Torque-	l speed
rev/min 1	cm ⁹ 1000 strokes	rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	mm
F 165	PS / 2500 min	-1	1			1	-	•
1250	81,0-83,0	1270	750	82,5-85,5				
B'162	PS / 2500 min	-1						
1250	81,0-83,0	1270	750	82,5-85,5				
B 162	PS / 2500 min	-1			•			
1250	81,0-83,0	1270						
F 160	PS / 2300 min	-1						
1150	80,0-82,0	1170	750	82,5-85,5				
B'155	PS / 2300 min	-1						
1150	80,0-82,0	1170	750	82,5-85,5				
B 155	PS / 2300 min	-1						
1150	80,0-82,0	1170						
A 141	PS / 2300 min	-1						
1185	76,0-78,0	1200						
B' 144	PS / 2100 min	-1 .		· · · · · · · ·				· · · · · · · · · · · · · · · · · · ·
1050	77,0-79,0	1060	750	82,5-85,5				e
B 144	PS / 2100 min	-1						
1050	77,0-79,0	1060						
A 131	PS / 2100 min	-1						
1080	73,0-75,0	1090						
F 144	PS / 2000 min	-1						
1000	77,0-79,0	1010	750	82,5-85,5				
B'138	PS / 2000 min	-1						
1000	77,0-79,0	1010	750	82,5-85,5				

①

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load o Control-ro Test oil tei	elivery	Rotational-speed imitation	Fuel deli	very characteristics	Idle	fuel delivery	intermed rotations Torque	l speed
rev/min 1	cm ² 1000 strokes	rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	travel rev/mon B	mm
B 138	PS / 2000 min	-1	1				•	,
1000	77,0-79,0	1010						
A 126	PS / 2000 min	-1						
1030	73,0-75,0	1040						
B 127	PS / 1800 min	-1						
900	78,0-80,0	910			*			
A' 115	PS / 1800 min	-1						
900	78,0-80,0	910						
A 115	PS / 1600 min	-1					· · · · · · · · · · · · · · · · · · ·	
930	74,0-76,0	940		,				
B 108	PS / 1500 min	-1						
750	80,0-82,0	760						•
A¹ 98	PS / 1500 min	-1		· · · · · · · · · · · · · · · · · · ·				
750	80,0-82,0	760						
A 98	PS / 1500 min	-1						
775	76,0-78,0	785					٠.	•
B 162	PS / 2300 min	.1						
1150 Specia	83,0-85,0 1 output	1170						
D 143	PS / 1800 min ⁻	·1					,	
900 Standb	89,0-91,0 y power output	910						
C 130	PS / 1800 min	·1						· · · · · · · · · · · · · · · · · · ·
900 Standb	89,0-91,0 y power output	910 t						

Checking values in brackets

* 1 mm less control rod travel than col 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load d Control-ro Test oil ten	elivery	Rotational-speed limitation	Fuel deli	very characteristics	Starting fuel delivery idle switching point		intermediate rotational speed Torque-control travel	
rev/min	cm ³ 1000 strokes	rev/min	rev/mm	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
D 120	PS / 1500 min	-1			,		•	,

90,0-92,0 760 Standby power output

C 109 PS / 1500 min-1 750 90,0-92,0 Standby power output 760

MWM 8,8 a

engine p Full-load (Control-re Test oil te	delivery	Rotational-speed limitation	Fuel deliv	very characteristics	Starting Idle switchir	fuel delivery ng point	intermed rotationa Torque- travel	l speed
rev/min	cm ³ 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	1-	5	10		+	
F 220	PS / 2500 min							
1250	81,0-83,0	1270	750	82,5-85,5				
B 216	PS / 2500 min	1					-	
1250	81,0-83,0	1270	750	82,5-85,5				
B 216	PS / 2500 min	·1						
1250	81,0-83,0	1270						
F 213	PS / 2300 min	·1						
1150	80,0-82,0	1170	750	82,5-85,5				
B'206	PS / 2300 min	·1						
1150	80,0-82,0	1170	750	82,5-85,5				
B 206	PS / 2300 min	·1						
1150	80,0-82,0	1170						
A 188	PS / 2300 min	.1						
1185	76,0-78,0	1200						
B'192	PS / 2100 min	1						
1050	77,0-79,0	1060	750	82,5-85,5				•
B 192	PS / 2100 min	1						
1050	77,0-79,0	1060					•	
A 175	PS / 2100 min-	1						
1080	73,0-75,0	1090						
F 192	PS / 2000 min	· <u>1</u>		***				
1030	77,0-79,0	1040	750	82,5-85,5				
B' 184	PS / 2000 min	·1						
1000	77,0-79,0	1010	750	82,5-85,5				

engine p Full-load Control-re Test oil te	delivery od stop imp 40°C (104°F)	Rotational-speed limitation	Fuel deli	very characteristics	Starting Idle switchin	1	intermed rotations Torque- travel	l speed
rev/min	cm ⁹ 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	lmw
 '	2	3	14	5	6	7	8	
B 184	PS / 2000 min	·1						
1000	77,0-79,0	1010						
A 168	PS / 2000 min	-1						
1000	73,0-75,0	1010						
B 169	PS / 1800 min	-1						
930	78,0-80,0	940						
A' 154	PS / 1800 min	-1						
900	78,0-80,0	910						
A 154	PS / 1800 min	•1					,	
900	74,0-76,0	910						
B 144	PS / 1500 min-	·1						-
775	80,0-82,0	785						
A'130	PS / 1500 min-	1						
750	80,0-82,0	760						
A 130	PS / 1500 min-	1						
750	76,0-78,0	760						•
B 216	PS / 2300 min-	1						
1150 Specia	83,0-85,0 1 output	1170						
D 190	PS / 1800 min ⁻	1						
900 Standb	89,0-91,0 y power output	910						
900	PS / 1800 min- 89,0-91,0 y power output	910						

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load di Control-rod Test oil terr	elivery	Rotational-speed limitation	Fuel deln	very characteristics	Starting Idle switchin		Intermedi rotational Torque-c	speed
rev/min	cm ² 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	

D 160 PS / 1500 min-1 750 90,0-92,0 760 Standby power output

C 145 PS / 1500 min⁻¹

750 90,0-92,0 760

Standby power output

①

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load o Control-ro Test oil te	delivery	Rotational-speed limitation	Fuel deln	rery characteristics	Idle	fuel delivery ng point j	intermed rotationa Torque- travel	l speed
tea/win	cm ² 71000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strakes		mm
1	2	3	14	5	6	7	8	
F 210	PS / 2300 min	· <u>1</u>						
1150	105,0-107	,0 1170	800	104,5-107,5	ı			
B'207	PS / 2300 min	-1						
1150	105,0-107	,0 1170	800	104,5-107,5				
B 207	PS / 2300 min	1						
1150	105,0-107	,0 1170	٠					
A 188	PS / 2300 min	1						
1185	101,0-103,	0 1200						*
B' 192	PS / 2100 min	·1						
1050	103,0-105,	0 1060	800	104,5-107,5				
B 192	PS / 2100 min	1						
1050	103,0-105,	0 1060						,
A 174	PS / 2100 min	1						
1080	99,0-101,0	1090						
F 192	PS / 2000 min	1						
1000	102,0-104,	0 1010	800	104,5-107,5				
B'184	PS / 2000 min	1			-		· ·	
1000	102,0-104,	0 1010	800	104,5-107,5				
	PS / 2000 min-	_						
1000	102,0-104,	0 1010						
A 167	PS / 2000 min	1						
1030	98,0-100,0	1040						
3 168	PS / 1800 min-	1						
900	101,0-103,	0 910						

D20

0

engine por Full-load de Control-rod Test oil tem	livery	Rotational-speed limitation	Fuel deln	very characteristics	Starting idle switchii	fuel delivery ng point I	intermed rotationa Torque- travel	speed
rev/min	cm ² 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	
Δ'153 F	' 'S / 1800 mir	n=1	'	1	•	•		
900	101,0-103	3,0 910						
A 153 P	S / 1800 mir	1-1						
930	97,0- 99,	0 940						
B 142 P	S / 1500 mir	1-1						
750	100,0-102	2,0 760						
		 						
A'129 P	S / 1500 mir	<u>1-1.</u>						
750	100,0-102	2,0 760						
A 129 P	S / 1500 mir	<u>1-1</u>					•	
775	96,0- 98,	.0 785						

engine po Full-toad o Control-ro Test oil tei	telivery	Rotational-speed limitation	Fuel deln	very characteristics	Starting Idle switchii	fuel delivery ng point	Intermed rotationa Torque- travel	1 speed
rev/min	cm ² 71000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	mm
1	2	3	4	5	10	/	10	
F 292								
1250	102,0-104	,0 1270	800	100,5-103,5	i			
B'292	PS / 2500 min	-1						
1250	102,0-104	,0 1270	800	100,5-103,5	;			
B 292	PS / 2500 min	-1						
1250	102,0-104							
F 280	PS / 2300 min	-1						
1150	100,0-102		800	100,5-103,5	•	ð		
B'275	PS / 2300 min	-1						
1150	100,0-102		800	100,5-103,5	,			
B 275	PS / 2300 min	-1						
1150	100,0-102							
A 250	PS / 2300 min	-1						
1185	96,0 - 98	,0 1200						
B'255	PS / 2100 min	-1		···			<u> </u>	 -
1050	99,0 -101	_	800	100,5-103,5	•			
B 255	PS / 2100 min	-1						
1050	99,0 -101				•			,
A 232	PS / 2100 min	-1			•			
1080	95,0 - 97							
F 256	PS / 2000 min	-1	····					
1000	99,0 -101	_	800	100,5-103,5	,			٠,
B'245	PS / 2000 min	-1						
1000	99,0 -101	_	800	100,5-103,5	;			

	Rotational-speed limitation	Fuel deln	very characteristics	Idle	fuel delivery	Intermediate rotational speed Torque-control travei
ev/min cm [®] 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min mm
2	3	4	5	6	7	8
245 PS / 2000 min-1	<u>l</u>					
000 99,0 -101,0	1010					
222 PS / 2000 min-1						
030 95,0 - 97,0	-					
224 PS / 1800 min ⁻¹	<u> </u>					
900 99,0 -101,0	910					
'203 PS / 1800 min ⁻ 1	1		_			
900 99,0 -101,0	910					
203 PS / 1800 min ⁻¹						
930 95,0 - 97,0	940					·
189 PS / 1500 min ⁻¹						
750 98,0 -100,0	760					
'172 PS / 1500 min-1						
750 98,0 -100,0	760					
172 PS / 1500 min-1						
750 94,0 - 96,0	760					
250 PS / 1800 min ⁻¹						
900 111,0-113,0	910					
tandby power output						
227 PS / 1800 min ⁻¹					-	
900 111,0-113,0 tandby power output	910					
canaby poner output						
210 PS / 1500 min ⁻¹	-				•	
750	760					

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Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

engine por Full-load de Control-rod Test oil ten	elivery	Rotational-speed limitation	Fuel deln		Starting idle switchir		intermedi rotational Torque-c travel	speed
rev/min	cm ³ 1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	

C 191 PS / 1500 min-1

750

111,0-113,0

760

Checking values in brackets

* 1 mm less control rod travel than col 2

1A)

WPP 001/4 EIC 3,9 h
2. Edition

En

PES 6 A 90 D 320 RS 2674 Komb.-Nr. 0 400 876 318 RSV 300-1150 A0B 2001-2 R A0C 2001-2 R supersed 6.0 83 company Eicher EDL 6-4/5/6 engine 109 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

2,2 - 2,3 (2,15-2,35)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ¹ /100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm*/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1125	12,0+0,1	7,8-7,9	0,25(0,5)			
300	8,3-8,5	1,3-2,3	0,3(0,45)		,	
	1		_i			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	l rev/min	Intermed	diate rated	speed	(4)		rated speed	1 3	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 x =	0,3-1,0 3,0	-	-	-	ca. 17	300 100	7,9 min.19,5	-	-
ca.42	11,0 4,0 1375	1165-1175 1205-1235 0,3-1,7		•			300 390 -4 50	8,3-8,5 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat	(3a) Fu	iel delivery jaracteristics	Starting fuel delivers idle			tdle stop		
rev/min	cm /1000 strokes	changed to) rev/min 3	rev/min	cm/1000 strokes	rev/min	cm //1000 strokes 7		travel mm 9		
1125	77,5-78,5 (75,5-80,5)	1165-1175*	-	•	100	127,0-137 (124,0-140 - 19,5 - 21,0 mm	,0-	-		

Checking values in brackets

* 1 mm less control rod travel than col 2

OSCH

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4

WPP 001/4 VAL 6,6 a

1. Edition

E٢

PES 6 A 95 D 320 RS 2684

RSV 325-1050 AOC 2178-2 R

Komb.-Nr. 0 400 876 321

company Valmet
engine 79 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2,5-2,6 (2,45-2,65)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm (2)	cm '/100 strokes	cm ^{-/} 100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1050	7,9-8,0	6,5-6,7	0,35(0,6		,	
325	4,6-4,8	1,2-1,6	0,35(0,5			
			1		1	
						10 m

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

14 7 7	rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travet mm	11 3 /	rque control Control rod travel mm
100se ca. 41	800 x = 6,9 4,0 1295	0,3-1,7 5,0 1090-1100 1140-1170 0,3-1,4		-	-	ca. 24	100 325	min.19,5 4,6-4,8 70=2,0	1050 500 840	7,9-8,0 8,7-8,8 8,2-8,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		nel delivery paracteristics	Starting f	uel delivery (5)		e stop Control rod
rev/min	cm ¹ /1000 strokes	changed to) rev/min 3	rev/min	cm //1000 strokes	rev/min	cm v1000 strokes	rev/min	travel mm 9
1050	65,0-67,0 (63,0-69,0)	1090-1100*	500	57,0-60,0 (54,5-62,5)	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

5.84

BOSCH

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40

WPP 001/4 CAS 8,3 a 1

1. Edition

Εn

PES 6 A 100 D 420 LS 3024

RSV 375-1100 A 2 B 763 DR

supersedes

company Case

engine

A-504 BDT

Komb.-Nr. 0 401 276 036

Values apply to fuel-injection test tubing

9 681 230 706

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,0-2,1

mm (from BDC)

(1.95-2.15)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm#100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
1100	13.0	15.8-16.0	0,3 (0,6)			
375	6,0	1,6-2,2	0,35(0,55)	!		
				i		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	(~)	rque control ' Control rod travel mm 11
ca. 43	1140 1150 1200	10,6-11,0 9,6-10,2 4,6- 6,0	wit	hout a	uxili	ca.22 ary	375 150	6,0 19-21	1000 700	0 0-0,35
29	1225 1300	2,2-4,0 0,2-1,2	spr	ing			300 375 450 600	9,5-11,3 6,0 2,6-4,1 0-1,0	500	0-0,35

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat	39 Fu	iel delivery naracteristics	Starting fi	uel delivery 5	49 ldi	e stop
rev/min	emp. 40°C (104°F) cm%1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm\$/1000 strokes	rev/min	cm#1000 strokes	rev/min	Control rod travel mm 9
1100	156,5-161,5 (155,0-163,0)	1140-1150*	700	159,5-165,5 (158,0-167,0)	375	135,0-145,0 16,0-22,0		6,0
			600	max. 63	High 1215	idle speed 26,0-32,0		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. • 1980 by Robert Bosch GmbH. Postfach SO, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 HAN 10.8 f

7. Edition

PE 6 A 100 D 320 RS 3030 Komb.-Nr. 0 401 076 006

EP/RSV 350-1100 A 8 B 1119 DRupersedr 12.83 A 8 C 1119DR_{company} MF-Hanomag

engine

** Cold-start test on EP/RSV governor according to Service Information VDT-I-420/114.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,75-1,95)

mm (from 80 RW=9, 0-12, 0 mm

Rotational speed rev/min 1	Control rod travel mm 2 cm*/100 strokes 3		Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ^{-/} 100 strokes 3	Spring pre-tensioning (torque control valve) mm 6
1100	11,5+0,1	15,0-15,2	0,3 (0,6)			
350	6,8-7,0	1,9-2,5	0,3 (0,5)	· · · · ·		
					rence between = 5,5-6,5° cam	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever detlection in degrees ?		rated speed Control rod travel mm		rque controt Control rod travel mm
loose	800 x =	0,3-1,0 5,5	-	-	<u>-</u>	ca. 24		5,5 min.19,0	-	-
ca.56	10,5 4,0 1355	1140-1150 1210-1240 0,3-1,7					350 435-495 600	5,9-6,1 = 2,0 0-1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		rel delivery paracteristics	Starting (uel delivery 5		e stop
revimin	emp 40°C (104°F) cm//1000 strokes 2	Note changed to) rev/min 3	revimin	cm ¹ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7		Control rod travel mm 9
1100	150,0-152,0 (148,0-154,0)	1140-1150*	•	-	100	19,0-21,0 mm RW **	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 RAB 10.8 a

4 . Edition

Eπ

PES 6 A 100 D 410 RS 3039 Komb.-Nr. 0 401 276 051 RSV 475-950 A 1 B 2121 L A 1 C 2121 L company RABA engine 184 kW (250 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke = (1.55-1.75)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3		Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
950	13,6+0,1	15,2-15,4	0,3 (0,6)		
475	5,9-6,1	1,2-1,6	0,3 (0,5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	(3) To	que control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel mm
1	2	3	4	5	6	7	В	9	10	11
lease	800	0,3-1,0	-	-	-	ca.27	475	5,5	950	13,6+0,
1 ₀ ose	х :	3,75						min.19,5 5,9-6,1	500 840	15,5+0, 14,9+0,
€3. 49	12,6 4,0 1195	990-1000 1030-1060 0,3-1,7	1					630 = 2,0 max. 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ead stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting fuel delivery tidle		(5a) Idle stop	
Test oil tem rev <i>i</i> min 1		Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min	Control rod travel mm 9
LDA 950	0,7 bar 15 2,0-154,0 (15 0,0-156,0)	990-1000*	LDA 750 LDA 500	0,7 bar 180,0-184,0 (178,0-186,0) 0 bar min, 149,0 (min, 151,0		•		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 3039	0,7		15,5 - 15,6
withA 1 B 2121L		0	13,5 - 13,6
		0,55	15,0 - 15,1
		0,42	14,1 - 14,3
		<u> </u>	<u> </u>

Notes:

Testoil-ISO 4113

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 VOL 10,0 1 2. Edition

Eπ

PE 6 P 120 A 320 RS 3061 RSV 200-900 P4/421 R Komb.-Nr. 0 401 876 716 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

company Volvo
TAMD 120 B
250 kW (340 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,6-2,7 (2,55-2,75)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm/100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm	Fuel delivery cm //100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,8+0,1	20,5-20,7	0,6 (0,9)			
250	5,0-5,2	0,9-1,3	0,3 (0,6)			
			<u> </u>	<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed		Interme	diate rated	d speed	Gontral-		rated speed Control rod	3 to	rque control Control rod
Degree of deflection of control	travel mm	fravel mm rev/min				lever deflection in degrees	rev/min	travei mm	tevimin	travel mm
lever 1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,7	-	•	-	ca.28	250	4,6	-	-
	x =	5,5					100	min.20,0		
ca.60	10,8 4,0 1150	940-950 995-1025 0,3-1,7					250 315-37	5,0-5,2 5 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ull-load stop emp 40°C (104°F)	6 Rotational- speed limitat		uel delivery naracteristics	Starting (luel delivery 5	43 Idi	e stop
rev/min	cm//1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm //1000 strokes 7	rev/min 8	travel mm 9
700	205,0-207,0 (202,0-210,0)	940-950*	-	2.5	100	390,0-440, = 20,0- 21,0 mm R		5,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

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(5)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

40

WPP 0C1/4 MB 2,2 d 1. Edition

En

PES 4 M 55 C 320 RS 152-1 RSF 375/2250 M 56 supersedes

Komb.-Nr. 0 400 074 968/Sales model

company

KUMD: -WI : 0 400 07

0 400 074 962 engine

54 kW U.S.A

OM 601

Daimler-Benz

1 - 3 - 4 - 2 0 - 90 - 180 - 270

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Note: Before starting testing, observe the important instructions on the reverse.

Port closing at prestroke

mm (from BDC)

Control rod travel

	2	,	0	0	-	2	,	1	0	
1	1	_	q	5		2		1	5)

RW = 20,0 - 22,0 mm

		(. ,				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (compensating valve
rev/min	mm	cm 1/100 strokes	cm ³ /100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1000	13,1+0,1	3,4-3,5	0,25(0,3)			
375 1800 2200	6,4-6,6	0,5-0,6	0,10(0,15) 0,25(0,3) 0,25(0,3)			
				<u> </u>		

Set uniform delivery according to the values in

Checking values in brackets

B. Governor Settings

Lower rated sp	eed		Upper rate	ed spe	ed		Variations in control rod travel			
B08.000.	Control rod travel	Rotational speed	Degree of deflection	1	Control rod travel	Rotational speed		Rotational speed	Control rod travel	
of control lever	mm	rev/min	of control lever		mm	rev/min		revimin	mm	
1	2	3	4		5	6	7	8	9	
2	min.12,5 6,4-6,6 **	250 375 400	50°	7000	8,8-9	5 2200 2 2500 2950	12 13 14	1000	min.20,6 12,7-12,9 13,1-13,2	
(4)	2,5	630-730		(1) (1)	1		6	Switching p	oint	

C. Settings for Fuel Injection Pump with Governor Mounted

Full-load de	elivery (19)	Full-load speed (8a) regulation	Variations delivery		Starting for	uel delivery	
Test oil ten	np 40°C (104°F)			1 (18)			Difference
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/mเก	cm ³ /1000 strokes	cm ³ /1000 strokes
1	2	3	4	5	6	7	8
2200	36,0-38,0	2500*	1800	36,0-37,5	100	min.55	6,0 (12a)
	(35,0-39,0)	8,8-9,2		(38,0-38,5)	375	5,0-6,0 (4,5-9,0)	1,0 1,5
			1000	34,0-35,0 (33,0-36,0)	2500	21,0-25,0 (20,0-26,0)	2,5 see (15) 3,0 Point
							8 a 16

Checking values in brackets

ca. 3,4

less control rod travel than in Column 2

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- 1. ** Position the idle-speed auxiliary spring at n = 400 min⁻¹ so that the control-rod travel is forced further by 0.1 0.2 mm.
- 2. Adjusting the idle control-lever position:

 At 1000 min⁻¹, control-rod travel 1.9 2.0 mm.
- Testing the idle-speed auxiliary spring shutoff

 Control-lever position 46°. No change in control-rod travel after switching point up to 550 min⁻¹.

 Control-lever position 30°. Rotational-speed range 350 min⁻¹ 450 min⁻¹.
- Control lever against idle stop.

 At n = 375 min⁻¹ and 450 mbar (vacuum) (338 mmHg) the control rod must move briskly to RW (control-rod travel) = 0 mm.
- overlow valve 1 469 990 351
- 6 *FB (start of delivery) difference between max. and min. value: 1° camshaft
- 7 Set the idle at the PLA aneroid box. To do so, release the lock nut.
- 8 Set the pneumatic idle increase (PLA):

 At 0.4 bar overpressure, n = 425 min⁻¹, RW (control-rack travel)
 = 8,0-9,6 mm (11-19 cm³/1000 strokes).
- 9 Check for leaks (vacuum test) at the PLA aneroid box

 Apply 0.8 bar to the PLA aneroid box through a 3-way cock
 and a pressure gauge. Using the 3-way cock, separate the
 vacuum supply from the PLA and the pressure gauge. Permissible
 pressure drop = 30 mbar in 15s.
- 10 FBG (start of delivery sensor) adjustment
 Adjustment and locking of FBG as per the FB average value of all cylinders, 19.5 ± 0.2 (0.3) °camshaft after cylinder 1.

(5)

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 VOB 6,0 c 5. Edition

En

estoil-ISO 4113

PES 6 MW 100/320 RS 5

RWV 300...1250 MW 17

0 403 246 005

1 - 5 - 3 - 6 - 2 - 4 = 0 - 60-120-180-240-300 0,5(0,75)

company Volvo engine TD 60

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

500.

2,50-2,60 (2,45-2,65) mm (from BDC)

9, 0-12, 6 ontrol rod travel

Spring pre-tensioning (compensating valve) Fuel delivery Difference Control rod Fuel delivery Rotational speed Control rod travel cm 1/100 strokes cm¹/100 strokes cm 1/100 strokes mm rev/min mm 0,35(0,6)7,5-7,7 1000 9,4-9,5 0,35(0,55) 5,7-5,9 1,5 - 1,9300

0,5(0,7)

Set uniform delivery according to the values in [______]

Checking values in brackets

B. Governor Settings

Lower rated sp	eed		Upper rated spe	eed		Variations in co	ntrol rod trav	el
Degree of deflection		Rotational speed		Control rod travel	Rotational speed	l .	Rotational speed	Control rod travel
of control lever	mm ,	rev/min	of control lever	mm	rev/min		rev/min	mm
1	2	3	4	5	6	7	8	9
20 1	8,5 5,7-5,9 **	325 -	9	9,3-9,5 8,4 4,0 0 -1,0	1300-1310 1360-1400	12 13 14	100 1000 800 550 Switching D	20,5-21,5 9,4-9,5 9,5-9,7 9,0-9,2
<u>(5)</u>	2,0	420-470	40 +5 🛈	-	-	6		30(80-250)

C. Settings for Fuel Injection Pump with Governor Mounted

Full-load de	elivery (19)	Full-load speed (8a) regulation	Variations delivery	in fuel (17)	idle	uel delivery	Difference	. !
rev/min	cm ³ /1000 strokes	rev/min	rev/min 4	cm 1/1000 strokes	rev/min	cm ¹ /1000 strokes 7	cm ¹ /1000 stro	kes
1000	75,0-77,0 (73,0-79,0)	1300-1310* (1295-1315)	550	53,3 - 57,3 (51,3 - 59,3)	300	15,8 - 19,8	3,5	(12 <i>A</i>)
								(16)

Checking values in brackets

* 1 mm less control rod travel than in Column 2

5,84

E10.

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Geschaftsbereich KH. Kundendienst. Kfz. Ausrustung.

1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Federale d. Allemagne par Robert Bosch GmbH.

1. Idle stage

4.25 ± 0.1 mm

- 2. ++ At this engine speed the auxiliary idle spring must just touch. Idle delivery must not be changed.
- 3. Whilst stationary control-rod travel must be at least 21 mm. (Check after adjusting the locking speed).

WPP 001/4 MB 3,0 t 2 1. Edition

En

PES 5 MW 55/320 RS 16-1 RW 375/2200 MW 28-3 0 403 245 025

supersedes

companDaimler-Benz engine OM 617 A-USA 92 kW (125=PS)

Note: Before starting testing, observe the important instructions on the reverse.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Start-of-delivery adjustment and blocking

19.5° after start-of-delivery cylinder 1.

Port closing at prestroke

2,10-2,20 (2,05-2,25)

mm (from BDC) 19,5-22,5^{Control rod travel}

ohne ALDA

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (compensating valve)
rev/min	mm	cm ¹ /100 strokes	cm ¹ /100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1000	13,5+0,	5,15-5,25	0,25 (0,3)			
375	5,2-5,	3 0,6 -0,7	0,1 (0,15			
1600			0,25 (0,3)			
2180			0,25 (0,3)			

Set uniform delivery according to the values in [

Checking values in brackets

B. Governor Settings

ohne ALDA

Lower rated sp	eed		Upper rated spe	eed		Variations in control rod travel			
Degree of deflection of control	Control rod travel		Degree of deflection of control	Control rod travel	Rotational speed		Rotational speed	Control rod travel	
lever	mm	rev/min	lever	mm	rev/min		rev/min	mm	
1	2	3	4	5	6	7	8	9	
27-31 ①	min.11	100 320	69 🕡	12,1-12	,3 2180	(12)	100	20,5-21,5	
3	max.11 5,2-5,3 **		9	11,2	2300-2320 2620-2720	(13)	1600 1000	13,1-13,3 13,5-13,6	
4 5	-	- -	0	0,0-1,0	2950 -	6	Switching po	(240-330)	

C. Settings for Fuel Injection Pump with Governor Mounted

ohne ALDA

Full-load d	elivery (19)	Full-load speed (8a) regulation	Variations delivery	in fuel (17)	Starting f	uel delivery	Difference
rev/min	cm ¹ /1000 strokes 2	rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm³/1000 strokes	cm³/1000 strokes 8
2180	50,0-52,0 (49,0-53,0)	2300-2320* (2290-2330)	1600 1000	51,5-53,0 (50,5-54,0) 51,5-52,5 (50,5-53,5)	100 375 2550	min. 55,0 6,0-7,0 (5,5-9-5) 24,0-30,0 (23,0-31,0)	6,6 @ 1,0 (1,5) (5) 2,5 (3,0) (6)

Checking values in brackets

^{* 1} mm less control rod travel than in Column 2

Testing with ALDA

Point	min ⁻¹	cm ³ /1000 H	RW	Pressure (absolute)
18	1000	51,5 - 52,5 (50,5 - 53,5)	13,5 - 13,6	1733 mbar(1300 mmHg)
18a	*** 1000	41,0 - 43,0 (40,0 - 44,0)	-	1067 mbar(800 mmHg)
19	2180	50,0 - 52,0 (49,0 - 53,0)	12,1 - 12,3	1733 mbar (1300 mmHg)
12a	100	min. 55	20,5 - 21,5	1733 mbar (1300 mmHg)
15	375	6.0 - 7.0 (5.5 - 9.5)	5,2 - 5,3	987 mbar (740 mmHg)

1. Adjusting the idle

Test supersedes Section 4.1 of test instructions VDT-W-420/300 Suppl. 2, Ed. 2.

Set the control lever to an angle of 69° . Operate the fuel-injection pump at 1000 min⁻¹.

Screw in the spring retainer until a control-rod travel of 13,5 - 13,6 mm is reached.

Set the control lever to an angle of 49° . Operate the fuel-injection pump at $1000 \, \text{min}^{-1}$. Control-rod travel 8,8 - 9,5 must be reached.

2. Adjusting the lower rated speed

Text supersedes Section 4.3 of test instructions VDT-W 420/300 Suppl. 2, Ed. 2.

Operate the fuel-injection pump at $n=800 \, \mathrm{min}^{-1}$. Take back the control lever until a control-rod travel of 1.0 - 1.3 mm is reached.

The resulting deflection of the control lever must be within the allowable tolerance. Fix the control lever in this position. Drive the fuel-injection pump at a speed according to Point 2 Section B of the test specification sheet. Set regulation at adjusting screw (28).

3. Adjusting the idle-speed auxiliary spring (70)

Position the idle-speed auxiliary spring in contact as the characteristic curve levels off at $n=520-550 \text{ min}^{-1}$.

4. Adjusting the sensing lever

Place the control lever against the full-load stop. Operate the fuel-injection pump at $n=375~\text{min}^{-1}$. Adjust the sensing lever so that the control-rod travel is 0.1 (0.1 - 0.2) mm above the full-load control-rod travel at $n=1000^{-1}$.

- 5. *** Correct the quantity of fuel injected at the correction screw of the ALDA aneroid box. Max. correction ± 0.75 mm control-rod travel.
- 6. Pin projection = 16.65 ± 0.1 mm
- 7. Shutoff check: Operate the fuel-injection pump at n = 200 min⁻¹. Force the control rod through the spring-loaded idle stop. The resulting control-rod travel must be max. 5 mm.
- 8. Test the pneumatic shutoff: Control lever in idle position.

 Operate the fuel-injection pump at n = 375 min⁻¹. At 450 mbar

 (338 mmHg) (vacuum) the control rod must move briskly to control-rod travel 0 mm.
- 9. Control-lever range idle full load = $38 42^{\circ}$.

10. Testing and setting of control-rod travel sensor
with evaluation circuit
K5/EES - RWG.00 RBN - 40

Receiving inspection:

Set control lever so that a voltage of 2.1 \pm 0.005 V is indicated on the digital voltmeter.

Set engine speed of 1000 1/min; fuel delivery of 27.5 - 28.5 ccm/1000 lifts must be reached. Control lever at full-load stop (control-rod travel 13.5 - 13.6), voltage value 3.2 ± 0.08 V.

Setting the control-rod travel sensor:

At 1000 1/min set a fuel delivery of 27.5 - 28.5 ccm/ 1000 lifts with control lever. Move control-rod travel sensor until $U = 2.1 \pm 0.005$ V is indicated (tighten fastening screws to 3 Nm). Control lever at full-load stop (control-rod travel = 13.5 - 13.6); voltage of 3.2 ± 0.04 V must be reached.

0

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 FIA 13,8 a 7 2. Edition

PE 6 P 120 A 720 RS 167

RQV 225-1100 PA 337 R

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersed 4.83 Fiat company 221 A/8210.02.022 engine 184 kW

Komb.-Nr. 0 401 846 361 0 401 846 454

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational spaud	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm ·
1100	10,7+0,1	16,9-17,1	0,5(0,9)			
225	7,5-7,7	1,7-2,3	0,8(1,2)			
				. 47		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated t	speed		Intermediate	rated sp	eed	Lower rated	speed	4	Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	trave)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min 10	(1) mm 11
max.	1100	15,2-17,8	-	-	-	ca.13	100	min.9,1		0,7-0,8
ca.60	9,7 4,0 1350	1140-1150 1200-1230 0-1,0				295-410	225	7,5-7,7		2,7-3,0 4,6-4,9 8,0
						39				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop np. 40°C (104°F) 2	Rotational-speed (2b) fimitation intermediate speed ray/min (4a)	Fuel delin high ide t	, w	idle switchin	. •	Torque- travel	Control 5 Control rod travel
1	2	3	4	5	6	7	8	9
1100	169,0-171,0 (166,0-174,0)	1140-1150*	1	•	-	-	1	

Checking values in brackets

* 1 mm less control rod travel than coi 2

5.84

BOSCH

WPP 001/4 BOS 12,3 d 3. Edition

Εn

PE 6 P 110/721 RS 168 RQ 250/1100 PA 131 D (1)
RS 168Z RQ 250/1100 PA 131 D (2)
RS 168 RQ 250/1100 PA 132 D (3)
RS 168 RQ 250/1100 PA 132 D (3)
Supersedes 12.71
company: Büssing
engine: S 12 DA 61
(310 PS -1)
(286 PS -2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(Ckecking $^{+0,15}_{-0,05}$)

(280 PS -3)

Port closing at prestroke

estoil-ISO

2.8 + 0.1

mm (from BDC)

Cy1. 6

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	13,8 - 14,5	0,6			
600 600 600 200	6 12 15 6	2,7 - 3,7 13,0 - 14,5 17,5 - 19,2 0,4 - 1,3				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 131 D

Checkin PRG che rev/min 1	Control rod travel		•		rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	Torque of rev/min	Control rod (3) travel mm
500	15,7-16,3	500	16,0	1120 1150 1200 1250	14,7-15,0 9,0-13,4 0 - 6,7 0	490	0	250	6,6-8,1 4,3-6,3 0 -2,4 0	620	15,8-16,0 15,0-15,2

Torque-control travel

0,3

Speed re

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	ad delivery on nor control lever il temp. 40°C (104°F)		Control rod stop	(3a)	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes 2		rev/min 3		rev/min 4	cm³/~1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ mm 7	
	See page 2 !						•			

Checking values in brackets

B. Governor Settings

RQ .. 132 D

BOS 12,3 d

'd -2

Checkin PRG che rev/min 1	Control rod	Full-load : Setting po rev/min 3	•	_	rev/min	tdle spe Setting (rev/min 7	Control rod travel		critications 5 Control rod travel mm	Torque o	Control rod (3) travel mm
500	15,7-16,3 16,3	500	16,0		15,6-16,0 10,0-14,0 0- 7,5 0	480	0	150 250 350 390	6,7-8,1 4,2-6,3 0-2,2 0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	rery characteristics	Starting fuel delivery Idle speed		
rev/min 1	cm ³ /- 1000 strokes 2	rev/min	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7	
110u	th131 D - 0,6 bar 175,0 - 177,0 ar 111,0 - 113,0		0,6 700 500	bar 168,0 - 172,0 166,0 - 170,0	100	210 - 230	

Checking values in brackets

B. Governor Settings

1	Checking of slider PRG check Control rod					cilications (4)	Setting point Test specifications (5)				Torque control		
rev/min	travel		rev/min	Control rod travel rnm 4	Control rod travel rnm 5	rev/min	rev/min 7	Control rod travel rmm	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12	

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	Starting f	uel delivery d Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm
168wit	h131 D - 0,5 bar		0,5 t	ar		
1100 0 b 1100	161,0 - 163,0 ar 110,0 - 114,0		700 500	160,0 - 164,0 158,0 - 164,0	100	210 - 230
168wit	h132 D - 0,5 bar		0 t	ar		
1100	141,5 - 143,5		1100	125,0 - 129,0	100	21 - 23

Setting the mamifold-pressure compensator:

- Basic setting of pump and governor (Section A-B) without manifold-pressure compensator.
- 2. Full-load delivery (data with charge-air pressure) at full-load stop screw of governor. Test fuel delivery characteristics. Mount manifold-pressure compensator.
- 3. Set start of adjustment at guide sleeve of manifoldpressure compensator.
- 4. Full-load (without charge-air pressure) at bell crank of manifold-pressure compensator.
- 5. End of adjustment adjustment test at n = 500 rpm rising pressure in bar:

Pump/governor	Start	End	Control-rod travel difference		
168/131 D	0.12-0.15	0.48-0.50	approx.	4.2 mm	
1682/131 D	0.12-0.15	0.48-0.50	approx.	3.7 mm	
168/132 D	0.11-0.13	0.31-0.34	approx.	1.1 mm	

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 BET 12,0 a

1. Edition

En

PE 6 P 100 A 320 RS 247

EP/RSV 300-1100 P 1/806 D

supersedes -

company Berliet MS 635 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2.15)

mm (from BDE) RW = 10,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm//100 strokes 3	Oifference cm ¹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12,0	10,5-11,2	0,5			
600	9,0 12,0 15,0	3,0-4,3 8,8-10,2 14,8-16,7				
200	9,0	1,8-3,0	٧			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 4 7 7	rated speed Control rod travel mm		Intermed	trate rated	speed	Control- lever deflection in degrees 7		raled speed Control rod travel mm	rque control Control rod travel mm
ca. 61	1100 1140 1170	16,0 12,6 9,4	witho				300 150	11,0	0 1,4-1,6
29	1150 1250 1350	10,0-12,5 3,5-6,3		vithout auxoliar vith auxiliary s			300 500 750	10,7-11,3 5,0-7,8 2,0-2,5	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(29)	ill-load stop emp 40°C (104°F)	Rotational- speed limitat	11.32	uel delivery paracteristics	Starting fi	uel delivery 5	42 ld!	e stop Control rod
rev/min	cm ¹ /1000 strokes	changed to) rev/min 3	rev/min	cm/1000 strokes 5	rev/min	cm ^{1/1000} strokes 7	tev/min	travel mm 9
LDA 1100 900 650	,9 bar 41,0-143,0 54,0-158,0 65,0-169,0	150-1170* 120-1240 *	DA 500 DA 350	0,43 bar 150,0-160,0 0 bar 111,0-115,0	100 300	min. 150 11,0-17,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

2.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. i 1980 by Robert Bosch GmbH, Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprimé en République Fédérale d'Alfemagne par Robert Bosch GmbH.

Test instructions:

- 1. Basic setting (Section A) without smoke limiter.
- Governor setting (Section B) without smoke limiter.
 Special sleeve position: Speed regulation up to
 2.0 2.5 mm control-rod travel (W2P 001/4 Supplement 1, Section 1a, Paragraph 3, 4 and 5)
- Set full-load delivery (Section C)
- 3.1 Fuel delivery characteristics correct with torquecontrol capsule.
- 3.2 Speed limitation: $n = 1135 \text{ min}^{-1}$ at 0.9 bar.
- 3.3 High idle
- 3.4 Preset smoke limiter while removed:
- 3.4.1 Set preload of escape element to 61.5 ± 6.5 N by means of nut Item 10.

 + lock nut with Loctite.
- 3.4.2 Unscrew screw Item 23 as far as it will go, then screw in by 1 turn and lock.
- 3.4.3 Set dimension "A" = 10.1 ± 0.1 mm (without pressure: measured at lever Item 8 without seal from stop face to support surface of pin Item 4).

 The specification of dimension "A" was based on a seal (between manifold-pressure compensator and governor cover) of 0.5 mm thickness.
 - Apply 0.42 0.44 bar to stop. The actual value of dimension "A" must increase by 0.85 ± 0.1 mm.

This value must be set by means of washers Item 15: End of adjustment at 0.62 - 0.68 bar. Note:

- + setting is by means of screw Item 11.
- + screw Item 11 and nut Item 10 must be turned simultaneously.
- + mount lock nut 10 and lock with tab washer Item 40.
- 3.4.4 Pin travel between 0.8 and 0 bar must be 2.85 3.15 mm

- 3.4.5 Apply 0.9 bar several times to manifold-pressure compensator and remove load again; check whether all parts (diaphragm rod, cam disk and escape element) move freely.
- 3.4.6 Check whether escape element performs a travel of at least 2.5 mm and whether the preload of the spring is still 61.5 \pm 6.5 N.
- 3.5 Mount smoke limiter.

 Using stop screw in diaphragm housing, set the delivery during naturally aspirated operation (0 bar).
- 4. Test/adjust starting fuel delivery and idle delivery.

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 FIA 13,8 s 1

1. Edition

PES 6 P 120 A 820 LS 249 Y

RQV 300-1000 PA 204/4 R

Komb.-Nr. 0 402 046 227

company Fiat 8217.32.110

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
mm 2	cm ³ /100 strokes	100 strokes	mm 2	cm ³ /100 strokes	mm 6
9,1-9,2	16,6-17,0	0,5(0,9)		ľ	
5,9-6,1	2,2-2,8	0,8(1,2)			
	mm 2 9,1-9,2	mm cm³/100 strokes 3 9,1-9,2 16,6-17,0	travel cm ³ /100 strokes cm ³ / 100 strokes 2 3 4 9,1-9,2 16,6-17,0 0,5(0,9)	travel cm³/100 strokes cm³/ 100 strokes 2 cm³/ 100 strokes 4 cm³/ 100 strokes 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	travel cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 2 cm ³ /100 strokes 3 cm ³ /100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated t	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control	rev/min Control rod travel	travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
lever 1	mm 2	rev/min (28)	lever 4	rev/min 5	mm (4)	lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
max.	1000	15,2-17,8	-	-	-	ca. 14	100 300	min.7,5 5,9-6,1	250 500	1,0-1,3
ca. 58	8,1 4,0 1300	1040-1050 1115-1145 0-1,0				300-395	300	3,9-0,1	750 1000	4,1-4,8 6,1-6,3 7,9
						3		ı		

Torque control travel a =

mп

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel dein high idle s	very characteristics (5e)	Starting Idle switchli	. •	Torque- travel	Control Control rod
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1000	169,0-173,0 (166,0-176,0)		1	-	-	-	•	•

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications 2 **Fuel Injection Pumps** and Governors

HPP 001/4

ROL 16,31

4. Edition

PE 8 P 130 A 120 RS 3072 Komb.-Nr. 0 401 838 702 RO 750 PA 533

Rolls Royce

CV8-300G ename

1 - 3 - 6 - 5 - 4 - 8 - 7 - 2 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

4

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,50-3,60

mm (from BDd)ei RW 9,0-12,0 mm

			_ _		- i
rod Fuel delivery	Difference		Fuel delivery	Spring pre-tensioning (torque-control valve)	
cm 1/100 strokes	100 strokes	mm	cm ¹ /100 strokes	mm	1
3	4	2	3	6	
+0, 31,8-32,2	0,5(0,9)				
5 1 28 - 44	0.8(1.2)				
5,1 Sp - 4,4	0,0(1,2)				
.,	cm ¹ /100 strokes 3	cm'/100 strokes 3 cm'/ 100 strokes 4 cm'/ 100 strokes 4 0,5 (0,9)	cm'/100 strokes 3 cm'/ 100 strokes 4 travel mm 2 cm'/ 100 strokes 4 cm'/ 100 strokes 2 cm	cm'/100 strokes 3	cm'/100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkini	g of slider	Full-load		-	cilications	Idle spec	_		cifications	Torque o	ontrol
rev/min	Control rod travel mm 2	rev/min	Control rod travel mm		Control rod travel mm 6	rev/min	Control rod travel		Control rod travel mm 10		Control rod travel mm 12
-	-	-	-	11,6 3,5	750-755 755-785	-	-	-	-	-	-
				0-1,0	900	, B24					

Torque confrol travel on flyweight assembly dimension a

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor-	delivery on control lever mp 40°C (104 F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	uel delivery
rev/min	cm*/-1000 strokes	rev/min 3	rev/min	cm'/- 1000 strokes 5	rev/min 6	cm 1/100 strokes 7
700	318, 0-322, 0 (315, 0-325, 0)	-	-	-	-	-
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					1

Checking values in brackets

5.84

Geschaftsbereich KH. Kundendienst. Kfz. Ausrustung. • 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

estoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 SCA 11,0 m 1 3. Edition

n

PE 6 P 110 A 720 RS3006

RQV 200-1100 PA283KR

RQV 200-1100 PA383KR ./.

supersedes 7.78 company: Scania engine: DS 11

Instructions P. 3

All test specifications are valid for Bosch Fuel injection Pump Test Benches and Testers

A. Fuel Injection Puris Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min 1	-	Fuel darivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	14,0+0,1	17,7 - 17,9	0,6(0,8)			2,5 ⁺ 0,1 ** (max. 2,2-2,9)
225	5,7-5,9	0,9- 1,3	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQV .. 283KR

Upper rated and the control of control fever	rev/min Control rod travel	Control rod tal travel mm rev/min 28	Intermediate Degree of deflection of control lever	rated sportering	control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3		mm
ca. 66 ca. 63	1100 1400 12,9 4,0	15,2-17,8 0 - 1 1140-1150 1270-1300	-	•	-		100 225 335-3 650	min.7,4 5,7-5,9 95 = 2,0 0 - 1	300 800 1150	2,0-2,8 5,2-5,6 8,3

Torque control travel a =

mm Sp. 10-11 -

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-re- Test oil ten		limitation intermediate speed	high idle s	rery characteristics (5e)	Starting Idle awitchin		Torque- travel	control 5 Control rod travel
rev/min	cm³/1000 strokes	rev/min (14)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	m m
1	2	3	4	5	6	7	8	9
LDA 1100	0,7 bar 177,0-179,0 (174,0-182,0)	1140-1150*	LDA 850 LDA 500	0,7 bar 154,0-160,0 (151,0-163,0) 0 bar 133,0-137,0 (130,0-140,0)	100 225 RW 6 streu		1100 850 600	13,9 13,0 13,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.84

Upper rated sp	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding s	Sliding sleeve travel	
deflection of control	Control rodtravel	Control rod travel mm rev/min		Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm	
1	2	3		4	5	6	7	8	9	10	_11	
max.	1100	15,2-17	7,6	-	-	-	ca. 11	100 225	min.7,2 5,7-5,9		1,6-2,4 5,6-6,0	
ca. 63		1140-119 1270-130 0 - 1	00				(3a)	360-4		1170	8,2	

Torque control travel a

mm -Sp. 10-11 -

C. Settings for Fuel Injection Pump with Fitted Governor

Full load of Control ro Test oil tei	od stop	Rotational-speed (2b) limitation intermediate speed	Fuel deln high idle	rery characteristics (5a) speed (5b)	Starting tidle switching	_	Torque- travel	Control rod
rev/min	cm 1/1000 strokes	rev/min 4a	rev/min	cm 1/1000 strokes	rev/min	cm /1000 strokes	rev/min	travel mm 9
LDA 1100	1,0 bar 176,5-179,5	1140-1150*	LDA 850	1,0 bar 154,0-160,0	100	190 - 240	1100	14,0+0
	(174, 0-182, 0)		LDA 500	(151,0-163,0) 0 bar 133,0-137,0 (131,0-139,0)	RW 6 Stre	9 - 13 ** : 26,5-36,5* ug. max.4 (7)	600	13,0+0 13,2+0

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

		rev/min	Control rod	(19)	Intermediate Degree of	·	Control rod	Lower rated Degree of	·	Control rod	Sliding s	leeve travel
- 1	of control	rod travel mm	travel mm rev/min	29		rev/min	mm 4	deflection of control lever	rev/min	mm 3	rev/min	mm
		2	3		4	5	6	/	8	9	10	-''
				i								
										•		
						e		30				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full load de Control rod Test oil tem	Plivery I stop up 40°C (104°F) 2	intermediate speed	Fuel deliv high idle s	rery characteristics (56)	Starting Idle awitchir		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm³/1000 strokes	rev/min		rev/min	travel mm
1	2	3	4	5	6	7	8	9
						•		
					ļ			
			ľ		l			
		N.	ì					
			i			1		

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = rev/min decreasing pressure - in bar gauge pressure

630			
Pump/governor	Setting	Measurement	Control rod 新兴英大大 Control rod 新兴英大大 Control rod 新兴英大大 Control rod 新兴英大大 Control rot rot rot rot rot rot rot rot rot rot
	Gauge pressure =	bar Gauge pressure =	bar mm (1)
3006 mit 283KR) und 383KR)	0,40	0,25 1,0 0	12,8 - 12,9 11,9 - 12,0 14,0 - 14,1 11,8 - 11,9
			,

Notes:

- 1. Start-of-delivery test without, fuel delivery test with Robo diaphragm.
- 2. After full-load setting, set stop screw in manifold-pressure compensator housing to 0.5 mm control-rod travel more than full-load control-rod travel.
- 3. Additional start test: At n = 0 min $^{-1}$ and with control lever vertical, operate start knob = 20 21 mm control-rod travel must be reached.
- 4. ** In case of large scatter, correspondingly change preload of valve spring.
- 5. High idle ***: Raise engine speed until control-rod travel of 6 mm is reached and measure scatter.

WPP 001/4 ROL 16,3 1 1 1. Edition

RO 750 PA 533 PE 8 P 130 A 120 RS 3072-1 Komb.-Nr. 0 401 838 703 1-3-6-5-4-8-7-2- je 45° ± 0,5° (± 0,75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes 7.83 Rolls Royce company. CV8-300 G

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW = 9.0-12.0 mm

		3,43-3,03)	,	IN - 3,0	-1230 11811	
Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,6+0,1	30,2-30,6	0,5(0,9)			
300	4,7-4,9	3,6-4,2	0,8(1,2)			
					1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO

Checking PRG che	g of slider ck (1	Full-load	•	_	cifications (4)	Idle spec			cifications (5)	Torque	(3)
rev/min	Control rod travel mm	rev/min	Centrel red travel rmm	Central red travel stren	rev/min 6	rev/min	Control red travel rmm 8	rev/min 9	Control rod travel mm	rev/min 11	Control rod travel mm 12
-	•	-	-	11,6 3,5 900	775-785	-	-	-	•	-	-
lorgue.c	ontrol travel							750-7	755 min ⁻¹		1 mm less contr

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	Fuel delivery characteristics			uel delivery d Control
rev/min 1	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
700	302,0-306,0 (299,0-309,0)	-	-	-		-	

Checking values in brackets

5.84

BOSCH

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Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 VOL 12,0 g 1

2. Edition

RSV 200-1000 P 4/421 PE 6 P 120 A 320 RS 3075 Komb.-Nr. 0 401 876 730 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers supersedes 7.83

Volvo company

TID 120 F/PP

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.55-2,75)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm/100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	11,3+0,1	22,6-22,8	0,5(0,9)			2,5 [±] 0,1
200	5,6-5,8	2,3-2,9	0,8(1,2)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	()	rque control Control rod travel mm
loose	800 x =	0,3-1,7 4,0	-	-	-	ca.20	200 200 255-31	5,2 5,6-5,8 5 = 2,0	4	•
ca.58	10,3 4,0 1230	1040-1050 1065-1095 0,3-1,7					2,0 0.	, ,		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b fu	ill-load stop	6 Rotational- speed limital 3a Fuel delivery characteristics			Starting I	uel delivery 5	(a) Idle stop		
rev/min	emp_40°C (104°F) cm*/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min	cm //1000 strokes 7	rev/min 8	Control rod travel mm	
700	226,0-228,0 (223,0-231,0)	1040-1050*	-	-	-	•	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

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Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 VOL 12,09

2. Edition

En

PE 6 P 120 A 320 RS 3075

RSV 6'0-750 P4/421

supersed56, 81
company Volvo
engine TID 120 FG

Fomba-Bra o hot 27 718

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.55-2.75)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	11,8+0,1	23,3 - 23,5	0,5(0,9)			
650	4,0-4,2	2,2 - 2,6	0,5(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control	deflection travel of control		Intermediate rated speed Degree of deflection of control lever rev/min 4 5 6		4 Lower Degree of deflection of control lever 7		Control rod travel mm	\sim	que control Control rod travel mm	
loose	800 X =	0,3-1,7 2,75	-	-	-	ca.33		4,1 4,0-4,2	-	-
€a.37	10,8 4,0 930	750-755 775-785 0,3 - 1,7					650 -	710=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational- speed limitat.				fuel delivery	5a Idle stop		
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note. changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min cm³/1000 strokes 6 7		rev/min	Control rod travel mm 9	
700	233, 0-235, 0 (230, 0-23 ³ , 0)	750-755*	-	-	-	-	-	-	

Checking values in brackets

1 mm less control rad travel than col. 2

5.84

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MB 11,4 i 8
1. Edition

En

PES 6 P 120 A 820 LS 3077-10

RQ 300/1100 PA 585

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes-

company Daimler-Benz engine OM 407 LA

Komb.-Nr. 0 402 046 722

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

4.0-4.1

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDZy1. 6

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	13,5+0,1	21,3-21,5	0,5			
300	5,5-5,7	1,4-2,0	0,8			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load : Setting po	•	_	cifications (4)	Idle spec	_		cifications (Torque	(3)
rev/min	travel mm	rev/min	Control red travel mm	Control red travel mm 5	rev/min	rev/min 7	Control red travel rnm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod
650 VH :	19,2-20,8 max. 46°	650	20,0		1145-1160 1200-1230	300	4,9	300	min. 6,5 4,8-5,0 10 = 2,0 m		•

Torque-control travel on flyweight assembly dimension a =

m

1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	2	Control rod stop	(3a)	Fuel deliv	ery characteristics	3 b	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes		rev/min 3		rev/min 4	cm ³ /~1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ mm 7	
LDA 1100	0,70 bar 213,0-215,0		-		LDA 600	0,70 bar 201,0-207,0		100	170,0-190,0	
					LDA 500	0 bar 146,0-148,0				
									:	

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BOSCH

D. Adjustment Test for Manifold Pressure Compensator

est at n = rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel	diminution difference
	Gauge pressure - bar	Gauge pressure = bar	mm (1)	
PES6PLS3077-10	0		10,9 -	11,1
+ RQPA 585		0,31	11,9 -	12,0
		0,41	12,7 -	13,0

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

MB 11,4 i 8

0

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 10,0 o 3. Edition

En

Testoil-ISO 4113

PE 6 P 110 A 320 RS 3080
Komb.-Nr. 0 401 846 745

ROV 250-1100 PA 589

KŲV 250-1100 PA

superseded . 83 companyVoTvo engine TD 100 GA

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

P	ort closing at pres	troke (3,5-3,6	mm (from BDC) ₂	RW 9.0	- 12,0 mm	
H	Rotational speed		Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
╟		2	3	ļ <u>.</u>	2	3	6
I	700	12,3+0,1	16,7 - 16,9	0,4(0,75	è		2,5 [±] 0,1 (2,2 - 2,9)
	250	3,8-4,0	1,5 - 1,9	0,3(0,6)			(2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection of control	rev/min Control rod travel	Control rod (trave) mm rev/min (2)	of control	rev/min	Control rod travel	Lower rated Degree of deflection of control lever	speed rev/min	Control rod travel	Sliding s	mm
max.	1180	15,2-17,8	1.	3	-	ca. 8	100			
			-			ca. o	250	min.5,3 3,8-4,0		0,6-0,9 5,4-6,4
ca. 63	4,0	1225-1255					300-3	360=2,0mm	670- 1040	6,4-6,6
	1350	0 - 1,0		1					1100	7,3
					<u> </u>	39				

Torque control travel a = mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed			Starting idle switchli	. •	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 44	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
LDA 700	0,75 bar 167,0-169,0 (164,0-172,0)	1160-1170 *	LDA 700	0 bar 120,5 - 123,5 (118,0-126,0)		160,0-190,0 156,0-194,0 = 20,0 - 21,0 mm RW	-	•

Checking values in brackets

* 1 mm less control rod travel than col 2

5.84

D. Adjustment Test for Manifold Pressure Compensator

VOL 10,0 o

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Setting	Measurement	diminution Control rod XXXXXXX difference XXXXXXXX
Gauge pressure = bar	Gauge pressure = bar	mm (1)
0,90		12,3 • 12,4
	0	9,8 - 9,9
	0,55	12,0 - 12,1
	0,34	103 - 105
	Gauge pressure = bar	Gauge pressure = bar Gauge pressure = bar 0,90 0 0,55 0,34

Notes

(1) when n -

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SSC 10,5 a

2. Edition

PES6P120A320RS3092-1

ROV320-1300 PA 654

Supersedist 82 companySSCM

Komb.-Nr. 0 402 046 738

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test engine 6LC520 S2

tubing 1 680 750 067

277 kW(376 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,8-2,9 (2,75-2,95) Port closing at prestroke

mm (from BDC)

= RW 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1280	13,3+0,1	19,8-20,0	0,5(0,9)			
320	7,9-8,1	2,0-2,6	0,8(1,2)			1
			:			1

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	eed	Lowerrated	speed		Sliding s	leeve travel
deflection	rev/min Control	Control rod travel	(1)	Degree of deflection		Control rad travel	Degree of deflection		Control rod travel		
of control lever	rod travel mm	mm rev/min	20	of control lever	rev/min	mm (of control lever	rev/min	mm 3	rev/min	nn m
1	2	3		4	5	8	7	8	9	10	11
max.	1305	15,2-17	.8	-	-	-	ca. 16	100	min.9,5	300	1,3-1,5
ca.65	12,3	1325-133	35					320	7,9-8,1	630	3,7-4,0
1		1415-144					350-460	1		970 1300	5,5-5,7 8,4
	1550	0 -	1,0				39				

Torque control travel a = -

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		fimitation intermediate speed	Fuel delichigh idle s	very characteristics (50 posed (50)	Starting Idle switching	• . •	Torque- travel	Control roc
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
1280	198,0-200,0 (195,0-203,0)	1325-1335*	•	-	100	19,5-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

FAA

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 BAO 31,8 a 1

1. Edition

PE 12 P 130 A 120 RS 3094-1 Komb.-Nr. 0 401 830 705

ROV 350-900 PA 618

supersedes_

company: Baudouin

engine. V 12 P 15 SRCN

1-12-9-4-5-8-11-2-3-10-7-6 0-45-60 $-105-120-165-180-225-240-285-300-345° <math>\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	3 19 3 35)	mm (from BDC)			
Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1	2	3	-	2	3	
900	11,7+0,1	32,8-33,3	0,6(1,05			_
350	3,9-4,1	2,0-2,7	0,95(1,3			
						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	ed		Lower rated	epeed		Sliding s	leeve travel
deflection	Control	Trever	2	Degree of deflection		Control ro	d	Degree of deflection		Control rod travel		0
	rod travel	mm rev/min (of control	rev/min	mm	①	of control lever	rev/min	mm 3	rev/min	1
1	2	3		4	5	6		7	8	9	10	11
max.	940	15,2-17,	8	•	•	-		ca. 22	350	3,9-4,1	325	1,2-1,6
ca. 60	10,7											3,1-3,8 6,0-6,4
	4,0 1150							350-450			900	7,9
								39				

Torque control trável a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten rev/min	1 stop 1p. 40°C (104°F) 2	Rotational-speed (20) limitation intermediate speed rev/min 4a	Fuel delivingh ide is	cm³/1000 strokes	Starting Idle switchir rev/min	,	Torque- travel rev/min 8	Control od travel mm
900	328,0-333,0 (324,0-337,0)	940-950*	•	•		•	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SSC 13,9 a

1. Edition

PES 8 P 100 A 520/4 RS 3096 Komb.-Nr. 0 402 048 700

0

ROV 300-1250 PA 629

company SSCM

engine: V8-520 NS

1-2-6-3-4-5-7-8 je 45 ° ± 0,5 ° (± 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC1 RW = 9.0-12.0 mm

Rotational speed rev/min		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	12,5+0,1	10,5-10,7	0,35(0,6)			
300	8,4-8,6	1,3-1,7	0,35(0,55			

Adjust the fuel delivery from each outlat according to the values in 📧

B. Governor Settings

deflection	peed rev/min Control rod travel mm	Control rod (travel mm rev/min (2	of control	rated sp	Control rad travel	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel	Sliding a rev/min 10	mm
max.	1310	15,2-17,	8 -	-	-	ca. 17		min. 10,0		1,3-1,4
	11,5 4,0 1550	1290-1300 1390-1420 0 - 1,0				350-460		'8,4-8,6	950 1250	5,4-5,6 7,9
						39				

Torque control travel s

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Centrol-ro Test oil ten	d stop np. 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed	Fuel deliv	poed (5)	Idle awitchir	ng point	travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1250	105,0-107,0	1290-1300 *	-	-	-	-	-	-
	(103,0-109,0)		,				
·						•		
		?						

Chucking values in brackets

* 1 mm less control rod travel than col. 2 5.84

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

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WPP 001/4 VOL 10,0 g 2

2. Edition

PE 6 P 110 A 320 RS 3108 Z Komb.-Nr. G 401 846 758 RQV 250-1100 PA 649

supersedes

company:

Volvo THD 100 EB

11.82

engine:

160 kW (218 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	(2,95-3,15)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes 3	mm 6
700	10,5+0,1	12,1-12,3	0,4(0,8)			2,5±0,1
250	5,4-5,6	3,2-3,6	0,3(0,6)			(2,2-2,9)
	·					
						<u></u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection	rev/min Control rod travel	Control rod tatravel mm (2a)	Intermediate Degree of deflection of control lever		Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding sl rev/min 10	mm
max.	1175	15,2-17,8	-	-	-	ca.10	100 250	min.6,9 5,4-5,6	500	0,7-0,9 4,2-4,8
ca.56	9,5 4,0 1350	1140-1150 1205-1235 0-1,0				39	350-	410=2,0	660 bis 1040 1100	6,4-6,6 7,3

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d atoo	Rotational-speed 20 limitation intermediate speed	Fuel deliv high idle s	ery cherecteristics 5a peed 50	Starting Idle switching		Torque- travel	Control Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
LDA 700	0,75 bar 121,0-123,0 (118,0-126,0		LDA 700	0 bar 104,5-107,5 (102,0-110,0		160,0-190,0 =20,0-21,0 mm RW	1	<u>.</u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

BOSCH

Deschäftsbereich KM. Kundendlenst. Kfz-Auerüstung. C by Robert Boech GmbM. D-7 Gwittpart 1, Poetfach 30. Printed in the Federal Republic of Germany morting en Republique Federale d'Allemagne par Robert Boach GmbM.

D. Adjustment Test for Manifold Pressure Compensator

VOL 10,0 q2 - 2 -

Test at n -

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3108 Z + RQVPA 649	0,25	0,75 0 0,22	10,3-10,4 10,5-10,6 9,6-9,8 10,0-10,2

Notes

(1) when in

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

0

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 STE 12,0 b 1 3. Edition

Ē٨

PE 8 P 110 A 121 LS 3113

RQV 250-1100 PA 652

supersedeg 83 company Steyr

Komb.-Nr. 0 401 858 701

1 - 5 - 8 - 4 - 6 - 3 - 7 - 2 je $45 \circ \frac{1}{2} \circ 0,5 \circ (\frac{1}{2} \circ 0,75 \circ)$

engine WD 815.64 240 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at pres	troke	2,0-2,9 2,75-2,95)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1100	11,7+0,1	14,9-15,1	0,4(0,75)			
250	6,1-6,3	1,5-2,1	p,4 (0,7)			
				1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Stiding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm 2	travel	\subseteq	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	0	
max.	1140	15,2-17	,8	•	•	-	ca.11			200 500	0,7-0,9 3,7-4,1	
ca. 61	10,7 4,0 1350	1140-1150 1195-1225 0 - 1,0			·				475=2,0	800 1100	7,9	
							3					

Torque control travel s = 0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) Fuel delivery characteristic limitation intermediate speed (a) rev/min (cm²/1000 stroke		rery characteristics (5e)	ewitchir	. •	Torque-control 5 travel Control rod travel rev/min mm		
1	2	3	4	5	6	7	8	9	
LDA 1100	0,9 bar 149,0-151,0 (146,0-154,0)	1140-1150 *	LDA 500 LDA 500	0,9 bar 142,0-146,0 (139,0-149,0 0 bar 96,0-98,0 (94,0-100,0)		200,0-240,0 (196,0-244,0	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.84

BOSC

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

STE 12,0 b 1 - 2

300	•		
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8P LS 3113 + RQV PA 652	0,9	0 0,53 0,39	11-7-11,8 9,3-9,4 11,2-11,3 9,8-10,0

Notes

(1) when n

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MB 14,6 a 1 2. Edition

En

PE 8 P 110 A 320 LS 3802

RQ 300/1150 PA 437-3

supersedes 9.83

Komb.-Nr. 0 401 848 755

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \pm 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

om 422 184 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDC)Zy1. 8

		(0,00-4,10)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,0+0,1	11,3-11,5	0,4(0,8)			
300	8,5-8,7	1,4-2,0	0,4(0,7)			
600	-	C, Sp. 4 u.5	0,6(0,9)			
				1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	g of slider ck	Full-load s Setting po			cifications (4)				cifications (5)				
	Control rod travel mm	. 1	Contrel red travel mm 4	Centrel red travel rnm 5	rev/min	rev/min 7	Control red travel rmm 8		Control rod travel mm	rev/min	Control rod travel mm		
650	13,2-14,0	650	13,6	10,0 4,0 1350	1195-1210 1230-1260 0-1,5		8,1	100 300 400-	min.8,5 7,0-7,2 449 = 2,0	1150 600	11,0-11,1 11,2-11,4		

Torque-control travel on flyweight assembly dimension a

mm

1195-1210 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

full-load delivery on povernor control lever lest oil temp 40°C (104°F)		Control rod stop 3a	Fuel delive	ery characteristics	Starting f	Control
rev/min	cm³/~1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes/mm 7
1150	113,0-115,0 (110,5-117,5)	, ,	600	92,0-96,0 (89,0-99,0)	100	130,0-150,0 (126,0-154,0)

Checking values in brackets

5.84

BOSCH

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 a 2 2. Edition

PE 8 P 110 A 320 LS 3802

ROV 300-1150 PA 486-3

supersed 8.83

Komb.-Nr. 0 401 848 756

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

company Daimler-Benz engine. OM 422 184 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) 7v1 8

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,0:0,1	11,3-115	0,4(0,8)			
300 600	8,4-8,6 -	1,4-2,0 C, Sp. 4 u.5	0,4(0,7) 0,6(0,9)			<u>,</u>

Adjust the fuel delivery from each outlet according to the values in £

B. Governor Settings

	rev/min		Intermediate Degree of deffection of control lever	rated sports ray/min	Control rod travel	Lower rated Degree of deflection of control lever 7	speed rev/min B	Control rod travel	Sliding s	mm
max. ca.64	1200 10,0 4,0 1400	15,2-17,8 1190-1200 1240-1270 0-1,5	•	*	-	ca.18 350-700 3	300	min.9,5 8,0-8,2	550	1,0-1,2 3,4-3,7 4,9-5,3 7,7

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b fimitation intermediate speed	Fuel deli- high idle s	rery characteristics (5a)	Starting Idle switchin	. •	Torque-	Control fod
rev/min	cm ³ /1000 strokes	rev/min 49	rev/min cm³/1000 strokes rev/min cm³/1000 strokes		cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9
1150	113,0-115,0 (110,5-117,5)	1190-1200*	600	92,0- 96,0 (89,0- 99,0)	100	140,0-160,0 (136,0-164,0	1150 600	11,0+0, 11,2+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

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WPP 001/4 MB 14,6 q
1. Eaitich

En

PE8P 120 A 320 LS 3807-10 RQ 300/1150 PA 546-3

1-8-7-2-6-3-5-4 je $45^{\circ}+0.5^{\circ}$ (+0.75°)

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

Daimler-Benz
company
engine OM 422 A
243 kW
Komb.-Nr. 0 401 848 733

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Rump Settings

Port closing at prestroke

(3,95-4,14)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,7+0,1	15,8-16,0	0,5(0,9)			
300	5,2-5,4	1,2 - 1,8	0,8(1,2)			İ
750	-			ŀ		
500	-	C, Sp. 4 u. 5	0,7(1,1)		İ	·

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load s Setting po	int	Test spe	cifications (4)	idle spec Setting p	oint		cifications (5)	Torque d	(3)
rev/min	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control red travel rnm 5	rev/min 6	rev/min	Control rod travel rnm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12
600 VH	13,2-20,8 = max. 46°	600	20,0	9,7 4,0	1200-1215 1250-1280	300	4,5	300	min.6,0 4,4-4,6 380=2,0	750	10,7-10,8 11,0-11,3 10,9-11,3

Torque-control travel on flyweight assembly dimension a =

0,3

1200-1215 min Speed regulation: At 1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o Test oil ten	elivery on control lever np 40°C (104°F)	2	Control rod stop	Fuel deli	Fuel delivery characteristics			fuel delivery		
rev/min	cm ³ /-1000 strokes 2		rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm 7		
LDA 1150	0,7 bar 157,5-159,5 (154,5-162,5)			LDA 750 LDA 500	0,7 bar 173,5-175,5 (170,5-178,5) 0 bar 139,0-141,0 (136,0-144,0)		100	140,0-160,0 (136,0-164,0)		

Checking values in brackets

5.84

BOSC

D. Adjustment Test for Manifold Pressure Compensator

Test at n 500 rev/min decreasing pressure - in bar gauge pressure

MB 14,6 q

Pump/governor Setting Measurement Control rod traveldifference

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - bar	Gauge pressure = bar	mm (1)
PE 8 FLS3807-10 +RQPA 546-3	0	,0,40 0,47	10,3-10,5 10,4-10,5 11,0-11,2

Notes

(1) when n

rev/min and gauge pressure =

bar (maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 NPP 001/4 FIA 17,2 c and Governors

1. Edition

PE 8 P 120 A 920/5 LS 3812 RQV 300-1050 PA 475 1 - 8 - 4 - 3 - 6 - 5 - 7 - 2 je 45°±0,5° (±0,75°)

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test apacifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes

companyFiat engine 8281.22.050

> Komb.-Nr. 0 401 848 749

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel mm	Fuoi delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rad travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensio ang (torque-contro! velve) mm 6
1050	10,9+0,1	18,3-18,5	0,5(0,9)			
300	5,3-5,5	1,7-2,3	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	Stiding sleeve travel		
deflection of control	rev/min Control rod travel	Control red travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
lever 1	mm 2	rev/min (23)	lever 4	rev/min S	6 4	lever 7	revimia 8	mm (3)	rev/min 10	11
	1080	15,2-17,8	-	-	-	ca.10	100 300	min. 6,9 5,3-5,5	300 450 800	1,6-1,7 3,5-4,2 6,1-6,3
ca. 60	9,9 4,0 1300	1090-1100 1180-1210 0 - 1,0		9		310-415 3			1050	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) (2) rev/min cfh³/1000 strokes		Rotational-speed (20) limitation intermediate speed rev/min (49)	Fuel delivery characteristics (5a) high idle speed (5b) rev/min cm³/1000 strokes		idie switchir	. •	Torque-control S travel Control ro travel rev/min mm 8	
LDA 1050	0,7 bar 183,0-185,0 180,0-188,0	1090-1100*	LDA 1050		100	190,0-210,0 (186,0-214,0	-	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

BOSCH

4113

-2-

D. Adjustment Test for Manifold Pressure Compensator

Testatn - 500	rev/min decreasing pressure - in	bar gauge pressure	
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure - bar	mm (1)
PE 8 P LS 3812 + RQV PA 475	0,70	0	10,9-11,0 8,5-8,6
		0,30 0,25	10,4-10,5 9,1-9,4

Notes

111 when h

revimin and gauge pressure :

bar (maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 MB 14,6 p 2. Edition

PE 8 P 120 A 320 LS 3816

RSV 650-1150 P0/823

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je 45 ± 0.5 (± 0.75 °) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersede 7.83 company Daimler-Benz OM 422 A 206 kW

Komb.-Nr. 0 401 878703

A. Fuel Injection Pump Settings

4,0-4,1

Port closing at prestroke

mm (from BDCZy1. 8

Port closing at	ort closing at prestroke (3,95-4,15)			mm (from BDC* y 1.						
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)				
rev/min	mm 2	cm ^{-/} 100 strokes	cm ^{-/} 100 strokes	mm 2	cm·/100 strokes	mm 6				
1130	9,5-9,6	14,1-14,3	0,5 (0,9)							
			1			7				
650 1000	3,5-3,7	1,6-2,2 c, Sp. 4 u.5	0,8 (1,2) b 8 (1,2)							
1000), op. 4 d.)	0,0 (1,2)							
		ļ		<u> </u>						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 1 1	rated speed Control rod travet mm		Interme	ediate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11 3 1	rque control Control rod Iravel min
loose	800 x =	0,3-1,0 2,0	-	-	-	-	-	-	1130 1000	9,5-9,6
ca.40	8,5 4,0 1400	1160-1170 1185-1200 0,3-1,7							1050	9,8-10,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(29)	off-load stop emp. 40 C (104 F)	Rotational Speed limital Sa Fuel delivery characteristics			Starting fuel delivery 5 4a idle stop				
revimin	cm /1000 strokes	changed to 1 rev/min 3	rev/min	cm·/1000 strokes	tev/min	cm v 1000 strokes 7	rev/min 8	travel mm 9	
1130	141,0-143,0 (138,0-146,0)	1160-1170*	1000	152,0-158,0 (149,0-161,0)	100	140,0-160 (136,0-164	0 -	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

5.84

WPP 001/4 KHD 1 g 1 4. Edition

Eπ

PES3A85D410/3 RS 2642 RSV325-1150A8B2102-1L komb, 2 r. 0 400 863 007 1 - 3 - 2 je 120° -0,5 (- 0,75)

supersedes 2.84

company KHD engine F3L 913

42 kW (57 PS) 2300 min 1 Schlepper D 6007-S23

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm*/	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1150	11,5+0	1 7,1-7,	0,3 (0,4	5)		
325	8,9-9	1 1,7-2,3	0,2 (0,4)		
		Ì		ļ		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe		3 Tor	que control
Degree of deflection of control lever	rev/min	Control rod travet mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
1	800	0,3-1,0	-	•	-	ca.20	325	8,5	1150	11,5+0
100se	<u> </u>						100 325	min.19, 8,9-0,1		11,8+0 11,6+0
5 ca.	4 10.2 4.0						485	545=2,0		
⑤ ca. 9			9\$							

** Set speed regulation before torque control.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

					Starting fuel delivery Idle		(5a) Idle stop	
1	40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min	rev/min	cm ³ /1000 strokes	rev/min 6	cm ¹ /1000 strok e s 7	rev/min 8	Control rod travel mm 9
1150	70,5 - 71,5 (68,5-73,5)	1190-1200	700	65,0-67,0 (63,0-69,0)	100	133,5-143	5 -	-

Checking values in brackets

* 1 mm less control rod travel than col 2

5.84

G1

WPP 001/4 KHD 5,7b 3. Edition

VA 6/100 H 1400 BR 48

supersedes

7.71 KHD

company

F 6 L 912

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches

Test Intructions and Test Equipment

VDT-WPP 161/4 B

Pre-stroke setting

0,3 _{mm}

Plunger lift of 1,0 mm related to outlet "E".

Pre-setting see reverse side

1. Settings	rev/min	Settings		Charge-air press kp/cm ²	Difference in delivery cm ³
1.1 Timing device travel	1200	4,8-5,8	mm .		
1.2 Supply pump pressure	1100	6,0-6,5	kp/cm²		
1.3 Full-load delivery without charge air pressure	900	56,0-57,0	cm ³ /1000 strokes		2,5
Full-load delivery with charge-air pressure			cm ³ /1000 strokes		
1.4 Idle speed regulation	300	12,0-18,0	cm ³ /1000 strakes		3,0
1.5 Start	100	mind.100	cm ³ /1000 strokes		
1.6 Full-load speed regulation	1460	36,0-44,0	cm ³ /1000 strokes		

2. Test Sp	ecificatio	NS Checking value	s in brackets	
2.1 Timing device	rev/min mm	600-750(570 Beginn	-780) 1200 (4,5-6,1)	1270-1390 6,7-7,4(6,4-7,7)
2.2 Supply pump	rev/min kp/cm²	100 1,1-1,6(0,9-1	,8) 1100 (5,8-6,7)	1400 7,0-7,5(6,8-7,7)
Overflow delivery	rev/min cm³/10 s	500 mind.25	1400 55-125 (40-140)
23 Fuel deliveries	•			
Speed control lever	Delivery lever	rev/min	cm ³ /1000 strokes	Charge-air pressure kp/cm²
End stop	Full	1490-1700 (1470-1720) 1530 1460 1350 900 500	0 max. 12,5 (35-45) 51,5-54,5(50,5-55,5) (55,5-57,5) 50,5-53,5(49,5-54,5)	
	Stop	1,400	0	
ldie stop	Fult	410-470 (390-490) 300	0 (11,0-19,0)	
End stop	Start	100 300 mind. 200	mind. 100 20,0-50,0(19,0-51,0)	

Angle to the stop-plate	Pre-setting dimensions
Pump " = 25 ± 4° " = 50 ± 8° " = 30 - 8° " = 60 ± 8°	Pump Dimension IV = 2,5 mm Dimension V = - mm

63

WPP 001/4 KHD 5,7b 1 1. Edition

VA 6/100 H 1400 BR 48-1

estoil-ISO 4113

company KHD F 6 L 912

All test specifications are valid for **Bosch Fuel Injection Pump Test Benches** and Testers

Test Intructions and Test Equipment VDT-WPP 161/4 B

Pre-setting see reverse side

Setting of the pointer at a stroke of 1 mm in relation to outlet "F"

1. Settings	rev/min	Settings		Charge-air press kp/cm ²	Difference in delivery cm ³
1 1 Timing device travel	1200	5,1-6,1	mm		
1 2 Supply pump pressure	1200	6, 4-6, 9	kp/cm²		
1.3 Full-load delivery without	900	56,0-57,0	cm ³ /1000 strokes		2,5
charge air pressure Full-load delivery with charge air			cm ³ /1000 strokes		
pressure 1 4 Idle speed regulation	300	12,0-18,0	cm ³ /1000 strokes		3,0
1.5 Start	100	mind. 80	cm³/1000 strokes		
1 6 Full-load speed regulation	1460	36,0-44,0	cm³/1000 strokes		

_	rev/min	NS Checking value 650-800 (620	-830)	1200	1270-1390
	mm	Beginn		(4,8-6,4)	6, 7-7, 4 (6, 4-7, 7)
2 2 Supply pump	rev/min	100		1200	1400
	kp/cm²	1,2-1,7 (1,0	-1,9)	(6,2-7,1)	7,1-7,6 (6,9-7,8)
Overflow delivery	rev/min	500		1000	
	cm³/10 s	mind. 25		55-125 (40-140)	
2 3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min	cm³/1000) strokes	Charge-air pressure kp/cm²
End stop	Full	1490-1700		0	
		(1470-1720) 1530	mine	d. 12,5	
		1460	"""	(35-45)	
		1350	51,5	5-54,5 (50,5-55,5)	
		900		(55, 5-57, 5)	
		500	50,5	5-53,5 (49,5-54,5)	
	Stop	1400		0	
die stop	Full	410-470	-	0	
	1	(390-490)			
		300		(11,0-19,0)	
	Start	100		d.80,0	
End stop		300	20,0)-50,0 (19,0-51,0)	

Angle to the stop-plate	Pre-setting dimensions			
Pump a = 25 ± 4° b = 50 ± 8° b = 30 - 8° c = 60 ± 8°	Pump' Dimension IV = 2,5 mm Dimension V = - mm			

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WPP 001/4 KHD 3,8a 1 1. Edition

En

VA 4/110 H 1400 BR 50-2 BR 50-4

2. Test Specifications

supersedes
companyKHD
engine F 4 L 912-75 PS

Pre stroke setting 0.2 mm Setting of the pointer at a stroke of 1 mm in relation to outlet "C".

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment VDT-WPP 161/4 B Pre-setting see reverse side

1.	Settings	rev/min	Settings	Charge-air press kp/cm ²	Difference in delivery cm ³
11	Timing device travel	1000	5,8-6,8 _{mm}		
12	Supply pump pressure	1000	4,8-5,3 kp/cm ²		
13	Full-load delivery without charge-air pressure	1000	54,5-55,5 cm ³ /1000 stroke	25	
	Full load delivery with charge air pressure		cm ³ /1000 stroke	s	
1 4	Idle speed regulation	250	9,0-15,0 cm ¹ /1000 stroke	es	
15	Start	100	mind. 110, 0 cm ³ /1000 stroke	es	
16	Full-load speed regulation	1460	36, 0-44, 0 cm ³ /1000 stroke	es	

Checking values in brackets

2 1 Timing device	rev/min	430-560 (400	-590)	1000	1250-1370
	mm	Beginn		(5,5-7,1)	9,7-10,4 (9,4-10,7)
2.2 Supply pump	rev/min	1 100		3000	1400
	kp/cm²	1,0-1,5 (0,8	-1,7)	(4, 5-5, 5)	5,9-6,4 (5,7-6,6)
Overflow delivery	rev/min	500		1000	
	cm³/10 s	mind. 25	55-1	125 (40-140)	
2.3 Fuel deliveries					
Speed control lever	Delivery lever	rev/min	cm³/1000 strokes		Charge air pressure kp/cm²
End stop	Full	1520-1580 (1500-1600) 1460	0	(35,0-45,0)	
		1380	47,5-50,5	(46,5-51,5)	
		1000		(54,0-56,0)	
		500	47,0-50,0	(46,0-51,0)	
,		100			
	Stop	1400	0		
idle stop	Full	290-340	0	· · · · · · · · · · · · · · · · · · ·	
		(270-360) 250		(8,0-16,0)	
	Start	100	mind. 110, 0		
End stop		500	30,0-42,5	(29, 0-43, 5)	
300P		mind. 200			

Angle to the stop-plate	Pre-setting dimensions		
Pump " = 25 ± 8° B = 45 ± 8° 1 = 30 - 8° 2 = 60 ± 8°	Pump Dimension IV = 3,0 mm Dimension V = - mm		

G7

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 3,1 a 3. Edition

En

PE 4 A 70 B 410 RS 301 PE 3 A 70 B 410 RS 321 PE 6 A 70 B 410 RS 329 EP/RSV 250-1000 A 8/312 D

supersedr3.64 company KHD

engine F.. L 612

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-180 4113

(1.85-2.05)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (forque control valve)
rev/min	mm (2)	cm /100 strokes	100 strokes	mm - 2	cm·/100 strokes	mm 6
1000	12,0	6,5-7,0	0,4			
1000 1000 200	6,0 18,0 6,0	1,2-1,9 10,9-11,9 0,7-1,5				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	3 to	rque control Control rod travel mm
ca.47	1000 1040 1080	10,0 6,0 2,0	vitho	ut aux	iliary	ca. 20 spring	250 100 250	5,5 19,0-21,0 5,2-5,8	980 800 600	0 0,5-0,7 1,0-1,2
29	1020 1050 1100 1150	7,0-9,0 3,0-6,0 1,0-2,0 0 - 1.0	vith a	auxilia	ary sp	ring	350 450 500	2,5-4,0 0 - 2,0 0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

W	ill-load stop emp 40 C (104 F)	6 Rotational speed limital Ruel delivery characteristics			Starting fuel delivery 5 da Idle stop				
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm½1000 strokes 7	rev/min	travel mm 9	
980	37,5-38,5	1010-130*	600 800	42,5-44,5 40,0-42,0	-	-	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

10.83

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuftgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Alfernagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 1 g 10

1. Edition

PES 2 A 80 D 310/3 RS 1322

Komb.-Nr. 0 400 462 054

RSV_325-1150 A 8 B 2011-1 L

company F 2 L 912

engine 25 kW bei 2300 min⁻¹ Tractor D 3607-

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery .	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm ②	cm ⁻ /100 strokes	cm ¹ / 100 strokes	mm	cm:/100 strokes	mm
1	2	3	4	2	3	6
1150	10,9+0,1	5,5-5,6	0,25(0,4)			
325	8,9-9,1	1,2-1,8	0,2(0,35)			
			İ		Ì	
					ļ	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800	0,3-1,0	•	-	•	ca. 26	325	8,5	1150	10,9-11,0
. 5050	x =	6,0					100	min.19,5	500	11,8-11,9 11,3-11,5
ca. 60	9,9 4,0 1480	1190-1200 1320-1350 0,3-1,7					325 690 - 7	8,9-9,1 0=2,0	1010	11,3-11,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	Rotational- speed limitat		ret delivery paracteristics	Starting (uel delivery 5	4a) Idle stop		
rev/min 1	cm ^{-/} 1000 strokes 2	changed to) rev/min 3	rev/min 4 .	cm ¹ /1000 strokes 5	rev/min	cm·/1000 strokes 7	rev/min	travel mm 9	
1150	54,5-55,5 (53,0-57,0)	1190-1200*	750	54,0-56,0 (52,0-58,0)	100	19,5-21,0 mm RW	•		
							:		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

1980 by Robert Bosch GmbH. Fostfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Fédérale d. Allemagne par Robert Bosch GmbH.

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

40

WPP 001/4 KHD 15.8 k 1. Edition

in...

PE 10 A 90 D 610/4 LS 2243

RQV 300-1250 AB 1005 DL

supersedes

1-10-9-4-3-6-5-8-7-2

0-27-72-99-144-171-216-243-288-315°±0.5° (±0.75°)

company: engine: KHD F 10 L 413 L

199 kW (270 PS) / 2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,50-1,60 mm (from BDC) Port closing at prestroke Spring pre-tensioning (torque-control-valve) Control rod **Fuel delivery** Fuel delivery Difference Rotational speed Control rod cm³/ cm³/100 strokes 100 strokes mm cm3/100 strokes mm rev/min 1250 10,0-10,1 7,3-7,4 0,3(0,45)0,9-1.5 0,2(0,4)250 7.4-7.6

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	peed			Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel	
Degree of deflection	rev/min Control	Control rod travel	(1)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		
of control lever	rod travel	mm rev/min	(2a)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm · ③	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1290	15,2-17	,8				ca.13	100	mind.7,5	200	0,2-0,8
							ŀ	300	5,9-6,1	600	2,4-3,0
ca.64	9,0	1290-13				1		1			
	4,0 1500	1335-13 0 - 1	,0					630-6	90=2,0	1290	8,2
							3 a	350-4	50		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe	d stop	limitation	Fuel deliv	very characteristics 5e peed (5b)	Idle	_	Torque-control 5		
Test oil ten	np. 40°C (104°F) (2) c/h³/1000 strokes	rev/min 49		cm ³ /1000 atrokes		ewitching point rev/min cm³/1000 strokes		Control rod travel mm	
1	2	3	4	5	6	7	18	9	
1250	72,5-73,5 (70,5-75,5)	1290-1300	1000	67,5-70,5 (65,5-72,5)	100	14,0-15,0 mm RW		10,0-10,1 10,0-10,2	
			800	70,5-73,5 (68,5-75,5)				10,4-10,6 10,9-11,1	

Chucking values in brackets

* 1 mm less control rod travel than col. 2

9.82

BOSCH

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 4,1 b

Edition

PES 4 A 80 D 410 RS2346

EP/RS 325-1400 AO B699DL

supersedes =

companyK H D engine F 4 L 913

(87 PS)

Test RS governor according to WPP 001/4, KHD 1 c

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.9 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery . cm 1/1/00 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁴ /100 strokes 3	Spring pre tensioning (torque-control valve) mm 6
1000	9	3,1 - 3,5	0,4			
	6	0,1 - 0,6				
500	9 .	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in [227.227.3]

B. Governor Settings

Upper rated s	peed		Intermediale	rated sp	eed	Lower rated	speed		Sliding steeve trave		
Degree of deflection of control leve:	tevimin/	Control rod Travel mm	Degree of delinction of control lever	rev/min	Control rod travet	Degree of deflection of control lever	rev/min	Control rod travel mm	Torque (nntrol travel	
1	2	3	4	5	6	7	8	9	10	11	
		15,8-16,5 11,9-13,3 7,7-9,8 2,8-5,8 0,3-1,0					325 300 400 500 1400 1470	8,3 8,4-9,1 6,0-6,8 3,5-4,2 2,2-2,8	1050 900	0 0,4-0,6 0,9-1,1 1,2-1,4 1,2-1,4	

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil tem		Rotational-speed limitation	Fuel deln	very characteristics	Starting fuel delivery idle switching point		Intermediate rotational speci Torque-contro travel	
rev/min	cm ^{-/} 1000 strokes	rev/min	rev/min	cm 1/1000 strokes	rev/min	cm 1/1000 strokes	rev/min	mm .
1	2	3	4	5	6	7	8	
1400	68,5 - 70,5	1420	800	62,0 - 65,0				
						I		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Föderale d Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 6,161

1. Edition

PES6A85D 410/3 RS2366

EP/RS 325/1325 AOB 691 DL

supersedes -

Komb.-Nr. 0 400 866 057

company KHD BF6L913

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm (2)	cm ⁻ /100 strokes	100 strokes	mm	cm /100 strokes	mm
1	2	3	4	2	3	6
1325	11,4+0,1	7,6-7,7	0,3(0,45)			
200	8,9-9,1	1,6-2,2	0,3(0,05)			
		l				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	raled speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	r rated speed Control rod travel mm 9	3 to	rque control Control rod travel mm 11
loose	$ \begin{array}{c} $	0,3-1,0 0 1355-1365	-	-	-	VH ca.6	0 400 800	6,0 2,7-3,7 2,7-2,9	850 500	11,9-12,1 11,9- 12,
max 2a		1450-1480					1300 1400	2,0-2,2		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

160	ill toad stop	6 Rotational speed limitat		el delivery aracteristics	Starting f	uel delivery 5	4a) Idle stop	
rev/min	cm ¹ /1000 strokes	Note changed to 1 rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min 8	travel mm 9
LDA 1325	0,5 bar 75,5-76,5 (74,5-77,5)	1355-1365*	LDA 500	0 bar 45,0-48,0 (43,5-49,5)	100	110,0-120	,0	

Checking values in brackets

* 1 mm less control rod travel than col 2

9.83

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D. Adjustment Test for Manifold Pressure Compensator

Testatin

700

rev/min decreasing pressure - in bar gauge pressure

KHD 6,1 b 1

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure - bar	Gauge pressure - bar	mm (1)
PES 6 ARS2366 + EP/RSAOB691DL	0,50	0,38 0,10	11,4 - 11,5 11,1 - 11,2 9,4 - 9,8
			·

Notes

(1) when n

rev/min and gauge pressure

har (maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 6,1 a 5. Edition

En

PES 6 A 85 D 410/3 RS 2366 EP/RSV 325-1400 A8B674D, 707 D

supersedes

1.84 K H D

325-1150 A8B674D, 707 D

company engine

BF 6 L 913

* RS 2415

Instructions P. 3 RS 2532

All test specifications are valid for Bosch Fuel Injection Pump Test Beriches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9 + 0,1

mm (from BDC)

estoil-ISO 4113

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cmi/100 strokes 3	Difference cm²/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6	0,6 - 1,4				
200	9	1,4 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

EP/RSV 325-1400 A8B674D, 707 D

Degree of deflection of control lever	r rated speed Control rod travel mm 2		Intermed	liate rated	speed	Control- lever deflection in degrees 7	Lower	r rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.69	1400 1450 1500	16,0 10,5 4,0	witho	without auxiliar			325 200	5,5 19 - 21	1400	0
ca.68	1400 1510 1600	ca.10,0 ca. 4,0 0,3-1,5	with (auxili 	iary S	pring	325 500 650	5,2-5,8 1,2-3,3 0 -1,5	500	1,2 - 1,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	II-load stop	6 Rotational- speed limitat		el delivery paractenstics	Starting t	uel delivery 5	4a) Idi	e stop
rev/min	emp 40°C (104°F) cm ⁹ /1000 strokes 2	Note changed to prev/min	rev/min cm³/1000 strokes 4 5		rev/min	cm\$1000 strakes	rev/min 8	Control rod travel mm
LDA ***	0,7 bar	***	LDA *** LDA	0,7 bar 0 bar	100	119,5- 129,5	325	5,5**
(inrea	se by ± 1,0 cm³		500	57,5 - 59,5				./.

Checking values in brackets

1 mm less control rod travel than col. 2

4.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
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B. Governor Settings

EP/RSV 325-1150 A8B674D, 707 D

11 1 1 1 1 1 1	deflection of control mm mm revimin			diate rated		Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	3 To	rque controt Control rod travel mm
ca. 56	1150 1200 1250	16,0 11,1 5.4	witho	4 5 6 without auxiliar			325 200	5,5 19 - 21	1130	0
20	1220 1300 1380	7,5-10,4 1,3-3,6 0,3-1,5	with	auxili	iary s	pring	325 500 660	5,5-5,8 1,4-3,4 0 -1,5	500	1,0-1,2

C. Settings for Fuel Injection Pump with Fitted Governor

C	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery naracteristics	Starting ti	fuel delivery 5	4a Idle stop	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
LDA	0,7 bar		LDA	0,7 bar	100	119,5-129,	5; 325	5,5**
	Instructions P.	3	LDA 500	0 bar 57 ,5 - 59 , 5				

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting Gauge pressure = bar	Measurement Gauge pressure = bar	diminution Control rod travel- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
all governors	0,38	0,10	0,2 - 0,3 1,6 - 2,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum fulf-load control rod travel)

En

^{* 1} mm less control rod travel than col. 2

C. Settings for Fuel Injection Pump with Fitted Governor

	engine por Full load de Control roo Test oil terr	elivery	Rotational speed limitation	Fuel deliv	very characteristics	Starting Idle switchin	fuel delivery	intermediate rotational speed Torque-control travel	
-	řev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
	1	2	3	4	5	6	7	8	
	BF 6 1 1400 1400 1325 1325 1325 1250 1250 1200	88,0 - 90,0 84,0 - 86,0 90,5 - 92,5 87,5 - 89,5 82,5 - 84,5 87,0 - 89,0 83,0 - 85,0 81,0 - 83,0 86,0 - 88,0	1420 1420 1420 1340 1340 1340 1270 1270 1270	800 800	80,0 - 83,0 66,0 - 69,0 88,5 - 90,5 82,5 - 85,5 67,5 - 70,5 84,5 - 87,5	16 14 16 16 14 16	2 PS / n = 8 PS / n = 0 PS / n =	2800 2800 2650 2650 2650 2500 2500 2500 2400	
	1200 1200 1165	78,0 - 80,0 84,0 - 86,0	1220 1180	800 800	68,0 - 71,0	13	5 PS / n =	2400 2330	

800

800

800

800

800

800

800

800

800

84,5 - 87,5

84,5 - 87,5

84,5 - 87,5 76,0 - 79,0

73,5 - 76,5

84,5 - 87,5

79,5 - 82,5 84,5 - 87,5

66,0 - 69,0

800 79,0 + 81,0

PLEASE NOTE

83,5 - 85,5

82,0 - 84,0

82,0 - 84,0

78.0 - 80.0

76,5 - 78,5 82,5 - 84,5 77,0 - 79,0

82,0 - 84,0

68,0 - 70,0

85,0 - 87,0

78,0 - 80,0

1150

1150

1100

1075

1075

1050

1000

1000

900

875

750

750

1165

1165

1115

1090

1090

1065

1015

1015

910

885

760

760

- 1. ** With Liebherr excavators: single-lever control, therefore use shorter screw 1 423 400 031 and set this at 0.3 1.0 before the stop.
- LDA adjustment to be carried out according to VDT-W-420/305.
- 3. Dimension H = 22.5 mm = basic setting of LDA.

Checking values in brackets

* 1 mm less control rod travel than col. 2

n = 2300

n = 2300

n = 2200

n = 2150

n = 2150

n = 2100

n = 2000

n = 2000

n = 1800

n = 1750

n = 1500

n = 1500

152 PS

142 PS

147 PS

144 PS

136 PS

130 PS

137 PS

130 PS

125 PS

106 PS

105 PS /

100 PS /

Test Specifications 2 Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 6,1 b 3. Edition

PES 6 A 85 D 410/3 RS 2366 RS 2415 PES 6 A 80 D 410/3 RS 2348** RQ 275/1400 AB 798 U EP/RS 325/1400 AOB 675D, 699D company KHD EP/RSV..661D, 673D, 686D, 720D BF 6 L 913 F 6 L 913** RQ 275/1400 AB 798 D

supersedes

Test RS governor according to WPP 001/4, KHD 1 c

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.9 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery 8,5 £ cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery 3,0 \$ cm³//\$0 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4	9	3,1 - 3,5	
	6	0,6 - 1,4		6	0,1 - 0,6	
200	9	1,4 - 2,2		9	0,6 - 1,3	

Adjust the fuel delivery from each outlet according to the values in .

B. Governor Settings

RQ 275/1400 AB 798 D

Checkine PRG che	g of slider ck (1)	Full-load s	*	•	cifications (4	Idle spe	-		cifications (5)	Torque o	(3)
rëv/min 1	Control rod travel mm 2	rev/min 3	Control red travel mm 4	Control red travel mm 5	rev/min	rev/min	Control rod travel rnm 8	rev/min 9	Control rod travel mm 10	rev/min 11	travel
1300	13,7-14,3	1300	14,0	1420 1460 1530 1620	13,6-14, 9,6-13, 0 - 9 0		0	100 250 350 540	6,2-8,1 4,8-6,8 3,0-5,2 0	900	15,8-16,0 14,9-15,3 14,0-14,3

Torque-control travel on flyweight assembly dimension a=0.65 mm

1 mm tess control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di governor c Test oil ten	elivery on ontrol lever ap 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting for spee	uel delivery d Control
rev/m/n	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/~1000 strokes 5	ray/min 6	cm ³ /1000 strokes / mm 7
s.	Seite 3 - 4 !					
(inc	rease by <u>+</u> 1,0 cm	3)				./.

Checking values in brackets

11.82

Upper rated s			1 1 1			Lower rated	speed		Sliding sleeve travel	
Degree of deflection of control		Control rod travel	Degree of deflection of control			Degree of deflection of control		Control rod travel		ontrol travel
lever	rev/min	mm	lever	rev/min		lever	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11

EP/RSV 325-1400 A 8 B 661 D

355	16,0				ca.	15	325	7,5	1400	0
400 460	12,6 4,0	withou	t auxi	liary spr	ing		100 325	min.19,5 7,9-8,1	1000	0,5-0,7
430	8,0 - 9,5	with a	uxilia	ry spring						
							090		500	1,2-1,4
4	100 160 130 500	100 12,6 160 4,0 130 8,0 - 9,5 500 1,2 - 3,2	100 12,6 withou 160 4,0 130 8,0 - 9,5 with a	100 12,6 without auxi 160 4,0 130 8,0 - 9,5 with auxilia 500 1,2 - 3,2	100 12,6 without auxiliary spr 160 4,0 130 8,0 - 9,5 with auxiliary spring 500 1,2 - 3,2	100 12,6 without auxiliary spring 160 4,0 130 8,0 - 9,5 with auxiliary spring 160 1,2 - 3,2	100 12,6 without auxiliary spring 160 4,0 130 8,0 - 9,5 with auxiliary spring 160 1,2 - 3,2	100 12,6 without auxiliary spring 100 325 130 8,0 - 9,5 with auxiliary spring 630-690	100 12,6 without auxiliary spring 100 min.19,5 325 7,9-8,1 430 8,0 - 9,5 with auxiliary spring 630-690	100 12,6 without auxiliary spring 100 min.19,5 325 7,9-8,1 1000 130 8,0 - 9,5 with auxiliary spring 630-690 500

EP/RSV 325-1150 A 8 B 673 D

ca. 56	1150 1200 1250	16,0 11,1 5,4	withou	auxo	liary spri	ca. 21 ng	325 200 325	5,5 19-21 5,2 - 5,8	1 † 30 500	0 1,0-1,2
	1220 1300 1380	7,5-10,4 1,3-3,6 0,3-1,5	with a	xilia	ry spring		500 660	1,4-3,4 0 -1,5		

EP/RSV 325-900 A 7 B 686 D, 720 D

ca. 6	940 980 960 1000	16,0 11,2 4,8 6,0-9,5 2,6-4,6	ca.26	325 150 325 450 550	6,0 19 - 21 5,7-6,3 1,5-3,7 0 -1,5	ca. 26	325 150 325 380 450	6,0 19 - 21 5,7-6,3 1,5-3,8 0 -1,5	880 400	0,9-1,1
	1080	0,3-1,5	686 D	Lower	rated spec	d 720 9	Low	er rated	speed	

EP/RS 325-1400 A 0 B 675 D

		15,8-16,6			325	8,3	1380	0
FHca.58		11,4-12,5 6,1-8,1			400	9,4-10,0 4,3-6,4	1050	0,9-1,1
	1620 1680	1,6-4,1			500 1000	3,5- 4,0 3,3- 3,9	550	1,2-1,4
	1000	0,3-1,0			1200	2,4- 3,0		
					1500	0		

EP/RS 325/1400 A 0 B 699 D

VHca.61	1400	15,8-16,5			325	8,3	1380	0
FH max.	1450	11,9-13,3			300	8,4-9,1	1100	0,3-0,5
					400	6,0-6,8		
		2,8-5,8			550	3,5-4,0	600	0,7-0,9
	1620				1350	2,8-3,2		
!				N.	1510	0		
								ļ
								1

C. Settings for Fuel Injection Pump with Fitted Governor

						·		
engine po Full load d Control ro Test oil ter	lelivery	Rotational speed limitation	Fuel deln	very characteristics	Starting Idle switchir	fuel delivery g point	Intermedi rotational Torque-c travel	speed
rev/min	cm ⁴ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	В	
BF 6 L	913 - PES 6	A <u>85</u> DRS 2	366, 2	415 - F or	B out	putat mir	- 1 1	•
1400	88,0-90,0	1420	800	80,0-83,0		PS / n = 2800		
	84,0-86,0	1420	800	66,0-69,0		PS / n = 2800		
	83,5-85,5	1420	800	66,0-69,0		PS / n = 2800		
	80,5-82,5	1420	800 800	57,5-60,5 52,0-54,0		PS / n = 2800 PS / n = 2800		
	76,5-78,5	1420				· ·		
	87,5-89,5	1340	800	82,5-85,5		PS / n = 2650		
	82,5-84,5 80,0-82,0	1340 1340	800 800	66,0-68,5 58,5-61,5		PS / n = 2650 PS / n = 2650		
	76,5-78,5	1340	800	52,5-55,5		PS / n = 2650		
	72,5-74,5	1340	800	48,5-51,5		PS / n = 2650		•
	87,0-89,0	1270	800	84,5-87,5	160	PS / n = 2500	1	
	83,0-85,0	1270	800	76,0-79,0		PS / n = 2500		
	81,0-83,0	1270	800	69,5-72,5	140	PS / n = 2500)	
	77,5-79,5	1270	800	62,5-65,5		PS / n = 2500		
1250	74,5-76,5	1270	800	54,5-57,5	120	PS / n = 2500)	
1250	73,0-75,0	1270	800	52,0-55,0		PS / n = 2500		
	86,0-88,0	1220	800	84,5-87,5		PS / n = 2400		
1200	78,0-80,0	1220	800 800	68,0-71,0 56,5-59,5		PS / n = 2400 PS / n = 2400		
1200 1165	73,5-75,5 84,0-86,0	1220 1180	800	84.5-87.5		PS / n = 2330		
						PS / n = 2330		
1165 1150	78,0-80,0 83,5-85,5	1180 1165	800 800	69,5-72,5 84,5-87,5		PS / n = 2300		
	80,0-82,0	1165	800	72,0-75,0		PS / n = 2300		
	76,5-78,5	1165	800	66,0-69,0	130	PS / n = 2300)	
1150	73,0-75,0	1165	800	58,5-61,5	120	PS / n = 2300)	
1150	70,5-72,5	1165	800	52,0-54,8	110	PS / n = 2300)	
1100	82,0-84,0	1115	800	84,5-87,5		PS / n = 2200		
1100	75,0-77,0	1115	800	65,5-68,5		PS / n = 2200		
1075 1075	82,0-84,0 78,0-80,0	1090 1090	800 800	84,5-87,5 76,0-79,0		PS / n = 2150 PS / n = 2150		
1075	71,0-73,0	1090	800	58,0-61,0 73,5-76,5		PS / n = 2150 PS / n = 2100		
1050 1000	76,5-78,5 82,5-84,5	1065 1015	800 800	84,5-87,5		PS / n = 2000		
1000	77,0-79,0	1015	800	72,0-75,0		PS / n = 2000		
1000	74,0-76,0	1015	800	69,5-72,5		PS / n = 2000		

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full load di Control rod Test oil ten	elivery	Rotational speed limitation	Fuel deliv	,	Starting Idle switchir	luel delivery	Intermedi rotational Torque-c travel	speed
rev/min	cm ¹ /1000 strokes	rev/min	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
<u> </u>	12	3	ļ ` —	-	ļ <u>.</u>	 	-	

BF 6 L 913 - PES 6 A 85 D .. RS 2366, 2415 - F or B output at .. min⁻¹ - Continued -110 PS / n = 200060,0-63,0 1015 800 1000 68,0-70,0 125 PS / n = 1800910 800 84.5-87.5 900 82,0-84,0 112 PS / n = 180069,5-72,5 910 800 70,5-72,5 900 95 PS / n = 180054,5-57,5 910 800 59,0-61,0 900 106 PS / n = 175066,0-69,0 875 68,0-70,0 885 800 95 PS / n = 175055,5-58,5 875 885 800 59,0-61,0 105 PS / n = 150085,0-87,0 760 750 100 PS / n = 1500760 750 78,0-80,0 95 PS / n = 1500750 72,0-74,0 760 80 PS / n = 150056,0-58,0 760 750 output | -BF 6 L 913 -135 PS / n = 23001150 82,0-84,0 1170 110 PS / n = 23001170 1150 72,5-74,5 130 PS / n = 2150 1090 1075 B1,0-83,0 105 PS / n = 21501090 1075 70,0-72,0 123 PS / n = 20001000 81,0-83,0 1015 100 PS / n = 20001015 1000 67,5-69,5 112 PS / n = 180078,5-80,5 910 900 90 PS / n = 1800910 900 61,5-63,5 106 PS / n = 175077,0-79,0 875 885 95 PS / n = 1500760 750 83,5-85,5 76 PS / n = 1500760 58,5-60,5 750 - F - :output | -F 6 L 913 - PES 6 A 80 D .. RS 2348 EP/RS 325/1400 A 0 B 699 D 130 PS / n = 28001400 69,0-71,0 1420 700 64,5-67,5

700

1420

54,5-57,5

1400 64,0-66,0

120 PS / n = 2800

e.il.

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 KHD 6,1 a 1
3. Edition

En

PES 6 A 85 D 410/3 RS 2415

RS 325/1325 AOB 691 DL 709 DL

supersedes1.82 company KHD

Test RS governor according to WPP 001/4, KHD 1 c

BF6 L 913 110 kW (150 FS) 2650 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9-2,0

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm³/100 strokes	mm
11	2	3	4	2	3	6
1325	12,0+0,1	8,7 - 8,8	0,3(0,45))		
325	8,2-8,4	1,4 - 2,0	0,2(0,4)			
	į			Ì		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper of Degree of deflection of control lever		Control rod travel mm	Degree of deflection of control		7 8 9				que control Control rod travel mm	
loose	800 X =	0,3-1,0 7,0	•	-	-		325 100 325	6,5 min.16,0 6,4-6,6	500	12,0+0,1 12,5+0,2 12,1+0,2
ca.68	11,0 4,0 1600	1355-1365 1450-1480 0,3-1,7					500	3,4-4,0 370=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	5a Idle stop	
Test oil tem rev/min t	2 3		rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
LDA 1325	0,7 bar 86,5-87,5 (84,5-89,5)	1355-1365*	LDA 500 LDA 800	0 bar 56,0-58,0 (53,5-60,5) 0,7 bar 76,5-78,5 (74,0-81,0)	100	15,0-16,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.83

D. Adjustment Test for Manifold Pressure Compensator

KHD 6,1 a 1 = 2 -

Testatio

5 00

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure	bar Gauge pressure	bar mm (1)
PES 6 ARS 2415	0,27		11,6 - 11,8
+AOB 691 DL +AOB 709 DL		0,70	12,5 - 12,7
		0,37	12, 2 - 12,3
		0	11, 3 - 11,5
!			
:		# # 	

tiole

it i when n

revimin and gauge pressure

har (maximum full load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 6.1 g

3. Edition

Festoil-ISO 4113 PES 6 A 85 D 410/3 RS 2415 RQ 300/1250 AB 935 DL

11.81 supersedes

engine

KHD

BF 6 L 913 T 96 ·kW

bei 2500 min 1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	lroke	(1,85-2,05)	mm (from BDC)		Zy1. 6	
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Oriflerence cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,1-11	2 7,9-8,1	0,3(0,45)			
360	7,3-7,	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load speed regulation Setting point Test specifications			cifications (4)	Idle spec Setting p	-		cifications (5)			
rev/min	Control rod travel mm	rev/min 3	Control red travel rnm 4	Central rad travel mm 5	rev/min 6		Control red travel rnm 8	rev/min	Control rod travel mm 10	rev/min 11	travei	
775	19,2-20,8	775	20,0	_	1295-1310 1365-1395	300	1		nin.8,8		11,1-11,2 12,2-12,3	
1500	0-1,0					'n			max. 1,0 35= 2,0		11,9-12,1 11,3-11,6	

Torque-control travel on flyweight assembly dimension a = 0,4

Speed regulation: A1295-1310 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	(3a) Fuel deliv	ery characteristics 3b	Starting I	Contrai
rev/min	cm³/~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
1250	80,0 - 81,0 (78,0 - 83,0)	-	800	69,5 - 72,5 (67,5 - 74,5)	100	19,0-21,0 mm RW

Checking values in brackets

9.82

BOSCH

623

Test Specifications Fuel Injection Pumps (1) APP 001/4 KHD 6,1 a 2 and Governors 2. Edition

PES 6 A 85 D 410/3 RS 2415 RQV 750 A B 1004 L

supersedes, 80

companKHD

engine BF 6 L 913

70 kW bei 1500 min

A power output

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

- 10% above rated output

A. Fuel Injection Pump Settings

Port closing at prestroke (1.85-2.05) mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
720	11,8-11,9	8,4 - 8,5	0,3(0,45			
				<u> </u>	i	

Adjust the fuel delivery from each outlet according to the values in

Testoil-ISO 4113

B. Governor Settings

Upper rated :	speed		Inter	mediate	rated spe	ed	Lower rated	speed			Sliding sl	eeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	traver	defic	ree of ection ontrol f	rev/min 5	Control rod travel mm	Degree of deflection of control lever	rev/min 8	Control rod travel mm (9	3	rev/min	mm 11
ca.25	11,3 4,0 9:,0	760-765 790-800					39					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Ilmitation intermediate speed		uel deliv igh idle s	ery characteristics 5a peed 5b	Starting Idle awitchir		Torque- travel	Control 5 Control rod
rov/min	cm³/1000 strokes	rev/min	40) /4	av/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4		5	6	7	9	9
720	84,0-85,0 (82,0-87,0)	760-765	*			100	119,5~129,5 bei 19,0 - 21,0 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col 2

3.82

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 6,1 i 4. Edition

PES 6 A 85 D 410/3 RS 2415 Komb.-Nr. 0 400 836 023

RQV 300-1250 AB 1131 L

supersedes

1.83

company: engina:

KHD

BF 6 L 913 T 96 kW / 2500min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Sendher and Testers

A. Fuel Injection Pump Settings

mm (from 3DC)

Rotational speed		Fuel delivery cm ² /100 strokes	Difference Cm ² / 100 strokes 4	Centrol rod trave/ mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250 300	12,0+0;1 8,4-8,6		0,3(0,45) 0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe: rated a Degree of deflection of control lever	rev/min Control rod travel	Control rod travel mm rev/min	(3)	Intermediate Degree of deflection of control lever		Control rod travel	Lower rated: Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	Sliding s rev/min 10	mm
max.	1385	15,2-17,	8	-	-	-	ca.17	100	min.10,0	250	0,9-1,1
ca.65	11,0 4,0 1525	1290-130 1415-144 0-1,0	15				45U-550 ③		8,4-8,6 05 =2,0		3,9-4,1 5,4-5,6 7,8

0,9_{mm} Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

		limitation intermediate speed	high idle s	very characteristics (5a)	switchin		Torque- travel	Control cod travel mm
rev/min	2	3	4	5	6	7	8	9
1250	78,0-79,0 (76,0-81,0)	1290-1300*	600	71,5-73,5 (69,0-76,0)		105,0-115,0 (102,0-118,0) = 17,4-17,8 mm RW	600	12,0+0,1 12,8+0,1 12,3+0,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.84

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Test Specifications
Fuel Injection Pumps
and Governors

40

WPP 001/4 KHD 11,3 b

1. Edition

En

PE 8 A 85 D 410 LS 2418

RQ 250/1200 AB 867DL 300/1200 RQV 300-1200 AB 915DL company engine K H D F 8 L 413 W (180 PS)

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3 ie 45°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.9 + 0.1

mm (from BDC)

max. RW

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5.0 - 5.5	0,4			
	6	1,3 - 2,1				
200	6	0,1 - 0,9				
		,				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ 250/1200 AB867DL

Checkin	g of slider	Full-load	speed re	gulation		(die speed regulation				Torque control		
	Control rod	Setting p	Control rod travel	Test spe	cifications Control rod [travel	Setting (Control rod travel		cifications Control rod I travel		Control rod travel	
rev/min	mm 2	rev/min 3	mm 4	rev/min 5	mm 6	rev/min 7	mm 8	rev/min 9	mm 10	rev/min 11	mm 12	
600	15,6-16,4	600	16,0	1240 1270 1300 1370	13,0-13,4 6,5-12,0 0,5-9,0 0	550	0	150 300 400 450	6,4-8,1 3,4-5,7 0 -1,5 0	750 1000	15,8-16,0 13,4-13,7	

Torque-control travel on flyweight assembly dimension a =

0,8

Speed regulation: At 240 - 1250 =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on . governor control lever Test oil temp. 40°C (104°F)		Control rod stop	Fuel deliv	ery characteristics	Starting t	Starting fuel delivery		
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm³/-1000 strokes 5	rev/min	cm ³ /1 000 strokes 7 4		
1200	67,5 - 69,5	600	1000 800	67,0 - 70,0 74,5 - 77,5	100	ca. 15 mm RW		
						./.		

Checking values in brackets

9.75

BOSCH

Upper rated	speed		Intermediate	e rated spe	eed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection of control lever	rev/min Control rodtravet	travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control liever	rev/min	Control rod travel mm 3	rev/min	mm
ca. 66	1255 1300 1400	15,0-18,0 11,0-15,0 0,5-8,0		-	-	ca.10	100 300 450 600	7,0-8,0 4,6-6,2 2,7-4,4 1,5-3,0	1255 1250	8,3
	1500	0				(3a)	820	0	600	1,5-1,6

Torque control travel a 1,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full load de Control roo Test oil tem	t stop	Rotational speed (20) limitation intermediate speed	Fuel deln high idle s	rery characteristics (5a) speed (5b)	Starting I Idle switchin		Torque-	Control rod
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm 1/1000 strokes	rev/min	cm·/1000 strokes 7	rev/min 8	travel mm 9
1200	67,5 - 69,5	1240-1250	1000 800	67,0 - 70,0 74,5 - 77,5	100	ca. 15 mm RW		
1						e-over point 250 min ⁻¹		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding s	eeve travel	۱
Degree of deflection		Control rod	(1a)	Degree of deflection	ı	Control rod (travel	Degree of deflection	1	Control rod travel		\mathbf{O}	١
	rod travel		(2a)	of control lever	rev/min	mm 4	of control lever	rev/min	mm 3	rev/min	mm	١
	2	3		4	5	6	7	8	9	10	11	4
				·								
1							(3a)					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full load de Control roo Test oil tem	Plivery I stop up 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed		peed 5b	Starting to the switching switching to the start of the switching start of the switching start of the switching starting	fuel delivery 6	travel	Control rod
rev/min	cm ¹ /1000 strakes	rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	7	tev/min 8	mm 9
1								
!								

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 8,8 a 2 1. Edition

En

PES 4 A 95 D 410 RS 2424

RSV 300-900 A7B 616 DL

supersede 5

company TAM

F4L413R

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1.70-1.90)

mm (from BDCRW 10,5

3	3	4			
8-8,9	7,6-7,8	0,3 (0,6)	2	3	6
9-6,1	0,7-1,3	0,3 (0,5)			
	-				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	(3)	rque control Control rod travel mm
loose	800 X =	0,3-1,0 5,5	-	-	-	ca.27	300 100 300	5,5 min. 19,0 5,9-6,1	900 600 400	8,8-8,9 9,4-9,6 9,8-9,9
ca.58	4.0	940-950 945-975 0,3-1,7					435-49 600		100	3,0-3,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop	6 Rotational speed limitat		iet delivery paracteristics	Starting fuel delivery 5 4a Idle stop				
rev/min	emp 40 C (104 F) cm ⁻ /1000 strokes 2	Note changed to 1 rev/min 3	rev/min	cm/1000 strokes	rev/min	cm v1000 strokes 7	rev/min 8	travel mm 9	
900	75,5-77,5	940-950*	-	-	100	115,0-125, = 12,5-13, mm RW		•	

Checking values in brackets

* 1 mm less control rod travel than cot 2

11.82

H4

2

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 KHD 8,8 a 3

1. Edition

En

PES 4 A 95 D 410 RS 2424

RQ 275/1200 AB 865 DL

supersedes -

company. TAM

engine F4L413R

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1.70-1

(1.70-1.90) mm (from BDC)RW 10,5

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	9,0-9,1	7,6-7,8	0,3 (0,6)			
275	5,9-6,1	0,7-1,3	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ck (1)	Full-load s Setting po	•	Test spec		idle spec Setting p	oint		cifications (5)			
rev/min	Control rod travel mm 2	rev/min 3	red travel mm 4	Central red travel mm 5	rev/min	rev/min 7	Central red travel rnm 8	rev/min	Control rod travel mm	rev/min 11	Control rod travel mm 12	
600	15,6-16,4	600	16,0	8,0 4,0 1450	1245-1260 1300-1330 0 - 1,0		6,0	100 275 370-4 500	min. 7,5 5,9-6,1 10 = 2,0 max. 1,0	950	9,0-9,1 9,2-9,5 9,6-9,7	

Torque-control travel on flyweight assembly dimension a =

mm

0,35

1245-1260 min-1 Speed regulation: At

1 mm less control rod travei

C. Settings for Fuel Injection Pump with Fitted Governor

governor c	Full-load delivery on governor control lever fest oil temp 40°C (104°F)		Control rod stop (3a)	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes 2		rev/min 3	rev/min	cm ³ /1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes/mm 7	
1200	75,5-77,5 (73,5-79,5)		700	1000	74,5-77,5 (72,5-79,5)		100	115,0-125,0 = 13,7-14,3	
				700	75,5-79,5 (73,5-81,5)				

Checking values in brackets

11.82

BOSCH

Testoil-ISO 4113

40

WPP 001/4 KHD 8,8 a 1

1. Edition

PES 4 A 95 D 410 RS 2424

RQ 300/1250 AB 1133 L

supersedes TAM
company F 4 L 413 FR
engine 94 kW (128 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.7-1.9)

mm (from BDC)

Rotational speed rev/min 1	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250 300 750 500	9,7-9,8 5,9-6,1 10,1+0,2	0,9 - 1,5	0,3 (0,6) 0,3 (0,5) 0,4 (0,7)			·

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG chec		Full-load s Setting po	•	_	cifications (4)	Idle spec	-		cifications (5)	Torque o	(3
	Control rod travel mm	rev/min 3	Control red travel mm 4	Central rad travel rnm 5	rev/min	rev/min 7	Centrel red travel rmm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12
600	15,6-16,4	600	16,0	8,7 4,0 1450	1290-1300 1350-1380 0-1,0		6,0	300 390-4	min. 7,5 5,9-6,1 50=2,0 mm ax.1,0	1250 600 830 895	9,7-9,8 0,1-10,2 9,9-10,1 9,7-10,0

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

				1	uel delivery d Confid
00 strokes	rev/min 3	rev/min	crn³/-1000 strokes	rev/min	cm ³ /1000 strokes:/ mm 7
•	-	750	89,5 - 92,5 (87,5 - 94,5)		119,0 - 129,0 bei 14,0-14,6 mm RW
		500	81,0 - 84,0 (79,0 - 86,0)		1000
	5 - 91, 5 5 - 93, 5)	•	5 - 93, 5)	5 - 93, 5) (87, 5 - 94, 5) 500 81, 0 - 84, 0	(87,5 - 94,5) 500 81,0 - 84,0

Checking values in brackets

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 12,7 o 1. Edition

PE 8 A 95 D 410 LS 2447

RQ 300/1250 AB 1125 L

supersedes

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

company:

engine:

KHD BF 8 L 413 F 221 kW /

2500 min-1

0 -45 -90 -135 -180 -225 -270 -315°±0,50° (0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 1,75-1,95 Port closing at prestroke (1,80-1,90) m

mm (from BDC)

Rotational speed rev/min 1	Control rod travel • mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,0	11,0 - 11,2	0,3(0,6)			
300	6,2-6,3	1,1 - 2,1	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin		ler	<u></u>	Full-load : Setting po	*	egulation Idle speed regulation Test specifications (5)							
rev/min	Contro travel mm 2	ol rod	O.	rev/min 3	Control rad travel mm 4	Control red travel rnm 5	rev/min 6	rev/min 7	Control rod travel rrtrrr 8	rev/min	Control rod travel mm 10	rev/min 11	Control rod
650	19,	2-20	,8	650	20,0	10,0	1295-1310	300	6,2	100	min.7,7	1250	11,0-11,1
				VH c	a.49°	4,0	1325-1355			300 500	6,2-6,3 max.1,0	Ī	11,1-11,4 11,3-11,5
					_				_	380-	420=2,0	650	11,4-11,5

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes:/ mm 7	
LDA 1250	0,7 bar 109,5-111,5 (107,5-113,5)	500	LDA 500 LDA 900	0 bar 67,0-70,0 (65,0-72,0) 0,7 bar 115,0-118,0 (113,0-120,0)	100	-130,0-140,0 / 14,7-15,1 mmRW	

Checking values in brackets

9.82

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

600

rev/min decreasing pressure – in bar gauge pressure

KHD 12,7 o

3	
)41	
<u>S</u>	
<u>ë</u>	
es	

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
2447 with 1125 L	0,7	0,37 0,15 0	11,4 - 11,5 11,1 - 11,2 9,7 - 9,9 9,3 - 9,4

Notes.

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15.8 i

1. Edition

PE 10A 95D 610/4LS 2448

ROV 300-1250 AB 1105L

supersedet company KHD

1-10-9 -4- 3 - 6 - 5 -8 - 7 - 2 $0-27-72-99-144-171-216-243-288-315 \pm 0,50^{\circ} (\stackrel{+}{-}0,75^{\circ})$ BF 10L 413 F 294 kW (400 PS) bei 2500 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
(1,75-1,95)
Part clasing at prestrake
1,90-1,90

mm (from BDC)

1250 11,3-11,4 11,4-11,6 0,3(0,6) 300 6,1-6,3 1,1-1,7 0,3(0,5)	 Spring pre-ten (torque-contre mm 6	Fuel delivery cm ³ /100 strokes 3	Control rod travel mm 2	Difference cm ³ / 100 strokes 4	•	Fuel delivery cm ³ /100 strokes 3	Control rod travel mm 2	Rotational speed rev/min
300 6,1-6,3 1,1-1,7 0,3(0,5)				0,3(0,6	11,6	4 11, 4-	11,3-11,	1250
				0,3(0,5	1,7	1,1-	6,1-6,3	300

Adjust the fuel delivery from each outlet according to the values in [

Testoil-ISO 4113

B. Governor Settings

deflection of control	rev/min Controt rod travel	mm -	9	Intermediate Degree of deflection of control lever	rated sports rav/min	Control rod travel	•	Lower rated Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	mm
max.	1300	15,2-17,		-	-	-		ca. 13	300 675-7	min. 7,7 6,1-6,3 735 = 2,0	
ca. 65	4,0 1500	1360-139	0					320-400 39			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roi Test oil ten		Rotational-speed 20 fimitation intermediate speed	high idle s		Starting Idle switchir		Torque- travel	Control (5) Control ?od
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9 +0,1
LDA 1250	0,8 bar 113,5-115,5 (111,5-117,5)	1290-1300*	LDA 900 LDA 1100 LDA 500	0,8 bar 119,0-122,0 0,8 bar 116,0-121,0 0 bar 68,0- 71,0	100-	129,0-139,0 220 (80-240) 24 V Elec	1250 1100 900 troma	11,5

Checking values in brackets

* 1 mm less control rod travel than col 2

Checking values P. 2

9.82

D. Adjustment Test for Manifold Pressure Compensator

KHD 15,8 i

Test at n

500

rev/min increasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
2448 with 1105 L	0,8 bar		11,6 - 11,7
		0,565	11,0 - 11,1
		0,430	10,1 - 10,3
		0	9,3 - 9,4

Notes:

Testoil-ISO 4113

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Checking values

900 1/min 0,8 bar (117,0 - 124,0)

1100 1/min 0,8 bar (114,0 - 123,0)

500 1/min 0 bar (66,0 - 73,0)

HAO

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 1 e 1

1. Edition

PE 10 A 95 D 610/4 LS 2448

See note

PE 12 A 95 D 610 LS 2449

RO 300/1250 AB 1082 L

ROV 300/525-750 Ab 1063 L

companyKHD

BF 10 L413F (259kW-352PS)

BF12 L 413F (215kW-292PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 1,80-1,90 Port closing at prestroke (1,75-1,95)

KHD 1e

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,5-10,6	10,2 - 10,4	0,3(0,6)			
300	5,9-6,1	0,7 - 1,3	0,3(0,5)			
500/900	-	C, 4-5	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

						Idle speed regulation Setting point Test specifications (5)				Torque control		
PRG che rev/min 1	Control rod		Control red travel mm	Control red travel	rev/min	rev/min	Control red travel	rev/min 9	Control rod		Control rod travel mm 12	
600	19,2-20,8		20,0	l	1295-1310		6,0	100	mind.7,5	1250 500	10,5-10,6 11,3-11,4	
		VH e	: 49	4,0	1325-135			300 500	5,9-6,1 max. 1,0	1010	11,0-11,2	
	i									1130	10,6-10,9	

Torque-control travel

Speed regulation. At

1 mm less control rod travel

on flyweight assembly dimension a = 0.3C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control fever mp 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting fuel delivery Idle speed			
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7		
LDA 1250	0,5 bar 100,5 - 102,5 (98,5 - 104,5)		L7A 900 LDA	0,5 bar 109,0 - 112,0 (107,0 - 114,0) 0 bar	100	129,0 - 139,0 24V.) Electromagnet		
			500	64,0 - 67,0 (62,0 - 69,0)				

Checking values in brackets

Upper rated s	speed	1	Intermediate	rated spe	ed	Lower rated speed				Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod ta travel mm rev/min 28	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control ro travel mm	d 3	rev/min	mm
1	2	3	-	5	6	/	8	9		10	
ca.68	750 950	15,2-17,8 0-1	ca.49	10,0 4,0	565-575 620-680	ca.11	100 300	min.7 5,7-5		250 400	0,3-1,2 1,9-2,1
ca.65	10,0	790-800 805-835					530-	590= 2	,0	600 760	3,7-4,5 8,3
						3a	315-	340			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rot Test oil ten		Rotational-speed 20 irmitation intermediate speed	Fuel deliv character high idle s	istics	Starting Idle switching	fuel delivery 6	Torque-control (5) travel Control rod	
rev/min 1	cm ³ /1000 strokes	rev/min 4a)	rev/min 4	cin ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	travel mm 9
LDA 750	0,5 bar 103,5-105,5 (101,5-107,5)	790-800*	LDA 500	0 bar 64,5-68,5 (62,5-68,5)	100 24 \	129,0-139,0 /-Electromagn		

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference		
	Gauge pressure = bar	Gauge pressure = bar	mm .		
2448 with 1082 L	·0,290	0,330 0	10,6-10,7 11,0-11,1 9,3-9,4		
2449 with 1063 L	0,500	0,280 0	11,0-11,1 10,8-10,9 9,1-9,2		

En

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 19,0 f 1. Edition

PE 12 A 95 D 610 LS 2449

ROV 300-1150 AB 1105 L

supersedes _ company:

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12

KHD

0 -15 -60 -75 -120-135-180-195-240-255-300-315° ±0,5°(0,75°)

BF 12 L 413 F 335 kW (455 PS) / 2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Fuel delivery

cm³/100 strokes

A. Fuel Injection Pump Settings

Port closing at prestroke (1.75 - 1.95)

Control rod

mm

Rotational speed

	min (nom bbc)			
-	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
	cm³/ 100 strokes		cm ³ /100 strokes	mm

1 ,	2	3	•	2	3
1150	11,3+0,1	11,3-11,5	0,3(0,25)		
300	6,4-6,6	1,1-1,7	0,7(0,25)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	Upper rated speed				rated spi	eed	Lower rated	speed		Sliding sleeve travel		
deflection	rev/min Control	Control rod travel	•	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		. ①	
of control lever	rod travel	Les/Will	28	of control lever	rev/min	mm ④	of control lever	rev/min	mm ③		mm	
1	2	3		4	5	6	7	8	9	10	11	
max.	1150	15,2-17	,8	-	-	-	ca.12		min.8,0 6,4-6,6		0,6-0,8 2,9-3,2	
ca.65	10,3	1190-12	00								4,9-5,2 8,3	
1	4,0 1375	1255-12 0-1,	85				345-415					
	13/3	0-1,					39			<u> </u>	<u> </u>	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten		Rotational-speed 20 limitation intermediate speed	Fuel delin	very characteristics (5e)	Starting Idle switchir	•	Torque- travei	Control cod	
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
LDA 1150	0,7 bar 112,5-114,5 (110,5-116,5)	1190-1200*	LDA 900 LDA 500	0,7 bar 119,0-122,0 (118,0-123,0 0 bar 68,0-71,0 (66,0-73,0	100	129,0-139,0			

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

KHD 19,0 f

Test at n =

500

rev/min increasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE12ALS2449	0,7		11,8 - 11,9
with AB 1105 L		0	9,5 - 9,6
		0,48	11,6 - 11,7
		0,20	9,9 - 10,3

Testoil-ISO 4113

Notes: (1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

0

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 19,0 g

En

PE 12 A 95 D 610LS 2449

RQV 300-1250 AB 1105 L

supersed 9.82 company KHD BF 12 L 413

engine. 353 kW / 2500 min

Komb.-Nr. 0 400 640 109

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12 0 - 15 - 60 - 75 - 120 - 135 - 180 - 195 - 240 - 255 - 300 - 315 20,5 20,75

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pret	stroke '.	1.80-1.90	mm (from BDC)	• •		
Rotational speed rev/min 1	Control rod travel mm 2	htrol rod Fuel delivery		Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,3	11,4 - 11,6	0,2(0,25)			
300	+ U, 5,9-6,1	0,9- 1,5	0,7(0,9)			
		1				
				1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever mm rev/min 2 3 3 4,0 1500 0-1,0 1500 0-	Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed	•	Sliding s	sleeve travel
ca. 66 10,3 1290-1300 4,0 1360-1390 1500 0-1,0 300 5,9-6,1 580 2,7-3,6 920 4,5-5,6 8,3	deflection of control	Control rod travel	travel	deflection	rev/min	travel	deflection of control		travel	rev/min	1
ca. 66 10,3 1290-1300 1250 8,3 1290-1300 1250 8,3	max.	1250	15,2-17,8				ca. 12			580	2,7-3,2
	ca. 66	4,0	1360-1390				325-410 3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-rod Test oil ten	d stop np. 40°C (104°F) 2	Rotational-speed ② limitation intermediate speed rev/min	high idle s	very characteristics (50 poed (50) cm ³ /1000 strokes	idie switchir	ng point	Torque- travel	Control cod travel
,	2	3	4	5	6	7	8	9+0,1
LDA 1250	0,7bar 113,5-115,5 (111,5-117,5)	1290-1300*	LDA 900 LDA 500	0,7 bar 118,0-121,0 (116,0-123,0 0 bar 69,0-71,0 (67,0-73,0)	100-2	1 30, 0- 140, 0 20 (80-240)	1250 1100 900	11,3 11,6 11,6

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.83

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

KHD 19,0 g -2-

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor		Setting	Measurement	Control rod travel	diminution difference
		Gauge pressure = bar	Gauge pressure = bar	mm (1)	
2449 + 11	105 L	0,7		11,6 - 11	,7
			0,45	11,5 - 11	,6
			0,20	10,0 - 10	1,2
		-	0	9,4 - 9	5

Notes

(1) when n ?

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 9.6 d 1. Edition

PE 6 A 95 D 410 LS 2450

1 - 6 - 5 - 4 - 3 - 2

RO 750 AB 1041 L

supersedes

company: engine:

KHD

F 6 L 413

85 kW (116 PS)

1500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

0 -75 -120-195-240-315° ±0,5° (±0,75°)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	(2,00-2,10) Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	9,5	8,0-8,2	0,3(0,6)			
300	5,9-6,1	0,9-1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod		Centrol red travel	Test spec Cetral red travel	cifications 4	Idle speed regular Setting point Central red travel rev/min mm		Test specifications Control rod		Torque control Control rod travel rev/min mm		
rev/min	mm	rev/min	mm	mm ·	rev/min	LEAVISON:		_				-
1	2	3	4	5	6	7	8	9	10	11	12	_1
				8,5 4,0 850	750-755 772-785 0-1							

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np. 40°C (104°F)	Control rod stop	3	Fuel delivery characteristics			Starting for Idle spee	COLUM
rev/min	cm ³ /-1000 strokes	rev/min		rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	md travel cm ³ /1000 strokes:// mm 7
700	79,5-81,5 (77,5-83,5)						778	120,0-130,0 bei 13,8-14,2 mm RW 3,9-4,1 mm RW rsion 4(6)

Checking values in brackets

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 9,6 f 1. Edition

PE 6 A 95 D 410 LS 2450

1 - 6 -5 - 4 - 3 - 2

RQV 300-1150 AB 1044 DL

supersedes

KHD company:

F6 L413 FW

115 kW (156 PS)

2300 min⁻¹

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
(1,95-2,15)

Port closing at prestroke
2,00-2,10

 $0 -75 -120 -195 -240 -315^{\circ} \pm 0,5^{\circ} (\pm 0,75^{\circ})$

mm (from BDC)

Rotational speed rev/min		Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,1-9,2	8,0-8,2	0,3(0,6)			
300 800	5,9 - 6,1	0,9-1,5 C, col.4-5	0,3(0,5) 0,4(0,7)			
	1					

Adjust the fuel delivery from each outlet according to the values in

B. Governo: Settings

deflection	rev/min Control rod travel	Control rod travel	Intermediate Degree of deflection of control lever	rated spo	Control rod travel	Lower rated Degree of deflection of control lever	rev/min	Control rod travel	Sliding s	mm
ca.68	1150 1350	15,2-17,8 0-1	-	-	-	ca.11	100 300 610-	min.7,5 5,9-6,1 670=2,0	300 550	1,5-1,7 3,0-3,2
ca.64	8,1 4,0	1190-1200 1225-1255				320-440 3a)				

Torque control travel a =

0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		limitation intermediate speed	Fuel delivinghide s	ery characteristics (5e)	Starting idle awitchin	_	Torque- travel	Control root travel
rev/min	cm³/1000 strokes .	rev/min 4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	78,0-81,0 (76,0-83,0)	100	119-129	850	9,1-9,2 9,3-9,4 9,5-9,6
					100-2	200(80-240)		

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 KHD 9,6 e

1. Edition

PE 6 A 95 D 410 LS 2450

RQV 300-800/1250 AB 1045 DL

supersedes company:

1 - 6 - 5 - 4 - 3 - 2

KHD F 6 L 413 F

0 -75 -120-195-240-315° ±0,5° (±0,75°)

141 kW (192 PS) 2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	9,9	9,3-9,5	0,3(0,6)			
300 1000/700	5,9-6,1 	0,9-1,5 C, col.4-5	0,3(0,5) 0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

deflection of control	rev/min Control rod travel	Control rod travel	Intermediate Degree of deflection of control	rated spe	Control rod travel	Lower rated: Degree of deflection of control lever	speed Control rod travel		Sliding s	mm	
lever 1	mm 2	rev/min (29)	lever 4	5	6	7	8	9		10	11
ca.50	1290 1500	15,2-17,8 0-1	ca.36	8,9 4,0	895-905 955-985	ca.14		min.7, 5,9-6, 425= 2,	1	700 1050	1,4-1,6 4,0-4,3 - 1250
ca.42	8,9 4,0	1290-1300 1345-1375				330-450 ③	500	0-1	-	1290	7,4-7,6 7,7

0,5 mm Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten		Rotational-speed 20 limitation intermediate speed	high idle speed (5b) Idle					Control cod
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	
1250	91,5-93,5 (89,5-95,5)	1290-1300*	1000 700	91,0-94,0 (89,0-96,0) 91,5-94,5 (89,5-96,5)	100	14-15 mm RW	900 800	9,9-10,0 9,9-10,2 10,2-10,4 10,4-10,5
					100-	220 (80-240)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

PE 6 A 95 D 410 LS 2450

and Governors

RQ 300/1250 AB 1046 DL

supersedes company:

1 - 6 - 5 - 4 - 3 - 2

 $0 - 75 - 120 - 195 - 240 - 315^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

F 6 L 413 F engine: (1) 130 kW (176 PS)

KHD

2500 min⁻¹ (2) 141 kW (192 PŞ)

2500 min-1

(3) 120 kW (163 PS) / 2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

1,95-2,15 mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm³/100 strokes	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	9,5-9,6	8,5-8,8	0,3(0,6)			
300	5,9-6,1	0,9-1,4	0,3(0,5)			
				•		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che		1	int Control	Test spec Central rad travel	rev/min	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications Control rod travel mm	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	8,5 4,0	1295-1310 1335-1365	300	6,0	300 350- 450	min.7,5 5,9-6,1 390= 2,0 max.1,0	1250 1080 965 600	9,5-9,6 9,6-9,9 9,9-10,1 10,1-10,2

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor c	Full-load delivery on governor control lever fest oil temp. 40°C (104°F)		Control rod stop	39	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes		rev/min 3		rev/min 4	cm³/-1000 strokes 5		rev/min 6	red travel cm³/1000 strokes / mm 7	
1250	85,0-87,5 (83,0-89,5)		600		1000 700	85,0-88,0 (83,0-90,0 86,5-89,5 (84,5-91,5)		100	120,0-130,0	

Checking values in brackets

9.82

1120

B. Governor S	etting	gs							(2) K	HD 9,6 h
Checking of slider PRG check Control rad travel revirmin mm 1 2 600 15,6-16,4	Full load Setting por rev'min 3 600		Test spe	rev/min 6 1295-1310 1340-1370	rev/min 7	Control rod travel	Test spe rev/min 9	10	965	Control rod 3.
Torque control travel on flyweight assembly dimer	nsion a	0.3	mm	Sp	eed regul	ation A	295 - 1	310 min ⁻¹		1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	ull toad delivery on joyernor control lever est oil temp. 40. C. (104. F.)		Control rod stop	Fuel deliv	ery characteristics	3b	Starting t	Juel delivery Control
rev/min	1cm / 1000 strokes		rev/min 3	rev/min	cm ⁴ /-1000 strokes 5		rev/min	cm 1/1000 strokes / mm 7
(°) 1250	91,5-93.5 (89,5-95.5)		600	1000	91,0-94,0 (89,0-96,0)		100	120,0-130,0
	:		:	700	91,5-94,5 (89,5-96,5)			
				!	•			

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

600 15.6-16.4	³ 600 ⁴ 16,	0 8.0 1295-1310 4.0 1320-1350	min.7.5 1250 5.9-6.1 1080 390 =2.0 965 max. 1.0 600	9.0-9.1 9,1-9.4 9,4-9.6 9,6-9,7
	•			9,6-9,7

C. Settings for Fuel Injection Pump with Fitted Governor

governor	lelivery on control lever mp 40°C (104 F)	(2)	Control rod stop 3a	Fuel deliv	ery characteristics	36)	Starting I	Contro
rev/min	cm ¹ /- 1000 strokes		rev/min	rev/min	cm ¹ /- 1000 strokes		rev/min	rod travel cm 1/1000 strokes / mm
: (3) 1250	81,5-83,5 (79,5-85,5)	my o paragraph and	600	1000 800	77,5-81,5 (75,5-83,5) 78,5-82,5 (76,5-84,5)	••	100	120,0-130.0
	:		1				· · · · · · · · · · · · · · · · · · ·	:

Test Specifications 3 Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 9,6 c

1. Edition

PE 6 A 95 D 410 LS 2450

RQ 300/1150 AB 1074 L

supersedes

1 - 6 - 5 - 4 - 3 - 2

company:

KHD

F 6 L 413 F 130 kW (176 PS)

0 -75-120-195-240-315° ±0,5° (±0,75°)

2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0-2,1 (1.95-2.15)

mm (from BDC)

Rotational speed rev/min	Control red travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,0+0,1	8,9-9,1	0,3(0,6)			
300 1020 700	5,9-6,1 10,0+0,3 10,5+0,1	0,9-1,4 C, col.4-5	0,3(0,5)	1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Central rad travel	rev/min	Idle spec Setting p rev/min 7	Control Fred travel		cifications 5 Control rod travel	rev/min	Control rod 3
600	15,6-16,4	600	16,0	9,0 4,0 1325	1195-1210 1225-1255 0 - 1,0	300	6,0	100 300 345 - 450	5,9-6,1 385=2.0mm	550 870	10,0-10,1 10,5-10,6 10,3-10,5 10,0-10,3
Torque-C	control travel		0.	3	l			1195-	1210 min-1		1 mm less control

Torque-control travel on flyweight assembly dimension a = 0,3

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor of Test oil ten	elivery on control lever np. 40°C (104°F)	2	Control rod stop	3 a)	Fuel delivery characteristics			Starting for Idle spee	Control
rev/min	cm ³ /~1000 strokes		rev/min 3		rev/min 4	cm ³ /-1000 strokes 5		rev/min	red travel cm ³ /1000 strokes / mm 7
1150	87,5-89,5 (85,5-91,5)		600		700 1020 400	88,0-91,0 (86,0-93,0) 88,0-91,0 (86,0-93,0) max.84,5 (max.86,5)		100	119,0-129,0 / 14,0-14,4 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 9,6 1

1. Edition

PE 6 A 95 D 410 LS 2450

RQV 300-1250 AB 1085 L

Komb.-Nr. 0 400 646 269

supersedes companyTAM

engine F6L 413 F

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0-2,1 mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2_	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,3+0,1	9,2-9,4	0,3(0,6)			
300	7,1-7,3	1,8-2,4	0,3(0,5)			
	, •					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection of control	peed rev/min Control rod travel mm	travel	Intermediate Degree of deflection of control lever	rated spore	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3		mm 11
max. ca. 64	9,3 4,0 1500	15,2-17,8 1290-1300 1370-1400 0 - 1,0	-	•	-	ca.12	100 300		580	0,2-0,5 4,3-4,5 5,8-5,9 8,1

Torque control travel a = 0.4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		d stop np. 40°C (104°F) 2 Intermediate speed high idle speed 50		idie switchir	. •	Torque- travel	Control cod travel	
1	2	3	4	5	6	7	8	9
1250	91,5-93,5 (89,5-95,5)	1290-1300 *	700 1000	(89,5-96,5)	100	116,5-126,5	250 700 835 1010	10,3+0, 10,7+0, 10,6+0, 10,3+0,

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

WPP 001/4 KHD 12,7 g

1. Edition

PE 8 A 95 D 410 LS 2451

RQV 750 AB 1041 L

supersedes _ company: KHD

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

0 -45 -90 -135-180-225-270-315 ±0,5° (±0,75°)

F 8 L 413 F (1) 114 kW / 1500 min⁻¹

(2) 129 kW / 1500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

POR CIOSING ST Pres	BOKE	(2.00-2.10)	Tibil (Holli BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
700	9,5	8,1-8,3	0,3(0,6)			
300	6,5-6,7	1,3-1,9	0,3(0,5)			t .
	·					
				į.	_	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection of control	rev/min Control rod travel	Control rod travel	Intermediate Degree of deffection of control lever	rated sp rev/min	Control rod travel	Lower rated Degree of deflection of control lever	speed rev/min 8	Control rod travel mm 3	Sliding s rev/min	mm
ca.22	8,5 4,5	750-755 770-790				39	·			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten	d stop	Rotational-speed 20 limitation intermediate speed	Fuel deli- high idle s	very characteristics 56 speed 50	Starting Idie switchin		Torque-control 5 travel Control rod	
rev/min cm²/1000 strokes		rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min mm	
1	2	3	4	5	6	7	8	9
700	79,5-81,5 (77,5-83,5)				100	119 - 129		
700	93,5-95,5 (91,5-97,5)							
					100	-650 (80-670)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.82

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(1)

(2)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 12,7 f

1. Edition

En_

PE 8 A 95 D 410 LS 2451

ROV 1150 AB 1041 L

supersedes

company: engine. KHD

F 8 L 413 F 165 kW /

2300 min⁻¹ B-power output

मो। test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

(4 05 2 15

mm (from BDC

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	10,0+0,1	8,7-8,9	0,3(0,6)			
300	5,9-6,1	0,9-1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sleeve travel	
	rev/min Control	Control rod travel	(19)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		<u> </u>
	rod travel	mm rev/min	(28)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm ③	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
-	9,0	1150-11	55	-	-	-	-	-	-		
ļ	4,5	1185-11	95						•		
[1250	0 - 1	,0				_				
Ì							<u>3</u>				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b limitation intermediate speed			Starting Idle switchin	•	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1100	85,5-87,5	-	-	-	100	110,0-120,0		
	(83,5-89,5)				ł	•		
s								

Chucking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 KHD 12.7 1 2. Edition

PE 8 A 95 D 410 LS 2451

ROV 300-1150 AB 1044 DL

supersedes 9,82

Komb.-Nr. 0 400 648 116

company: KHD

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

F 8 L 413 FW 153 kW (208 PS)

0 -45 -90 -135-180-225-270-315° ±0.5° (±0.75°)

2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Tunnelling or mining vehicles

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,1-9,2	7,9-8,1	0,3(0,6)			
300	5,9-6,1	0,9-1,5	0,3(0,5)			
	-					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding sleeve travel	
Degree of deflection	rev/min Control	Control rod (1a	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		, ①
of control	rod travel	mm rev/min (28	of control lever	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1150	15,2-17,8	-		-	ca.11	100	min.7,5	30 <u>.</u> 0	1,4-1,6
	ļ		_					15,9-6,1 500 =2,0	750	4,0-4,3
ca.64	8,1	1190-1200				ł	750	0-1	1190	8,5
	4,0	1225-1255				320-400				
	1350	0-1,0 **				3				

Torque control travel a =

** Set control-rod stop to contact at 600 min/1

C. Settings for Fuel injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		imitation intermediate speed	high idle s	very characteristics (5a)	Sterting Idle switchir	•	Torque- travel	Control 5 Control rod travel	
rev/min	cm³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min		
1	2	3	4	5	6	7	8	9	
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	77,5-81,0 (76,0-83,0)	100	119 - 129	350	9,1-9,2 9,4-9,6 9,5-9,6	
					100-	 -220 (80-240)			

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Checking values in brackets

* 1 mm less control rod travel than col. 2

0

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 12,7 m

PE 8 A 95 D 410 LS 2451

ROV 300-800/1250 AB 1045 DL

supersedes

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

company:

0 -45 -90-135-180-225-270-315° ±0.5° (±0.75°)

KHD F 8 L 413 F engine.

1. Edition

188 kW (256 PS) / 2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings
(1,95-2,15)
Port closing at prestroke
2,00-2,10 mm

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	9,9	9,2-9,4	0,3(0,6)			
300	5,9-6,1	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed rev/min	Control rod (18)	Degree of Control rod			Lower rated Degree of	speed	Stiding sleeve travel		
of control	Control rod travel mm 2	mm O	deflection of control lever	rev/min 5	mm 4	deflection of control lever 7	rev/min 8	mm 3	rev/min 10	mm 11
ca.50	-	15,2-17,8 0-1	ca.26	8,5 4,0	695-705 765-795	ca.14	100 300	min.7,5 6,9-6,1	300 700	1,4-1,6 4,0-4,3
ca. 42		1290-1300 1345-1375				330-450 ③			1290	1250 7,4-7,6 7,7

0.5 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe		Rotational-speed 20 limitation intermediate speed	Fuel delin high idle s	very characteristics 5a	Starting Idle switchin		Torque- travel	Control roci
rev/min		rev/min 49	rev/min	r/min cm³/1000 strokes		cm³/1000 strokes	rev/min	travel
1250	91,5-93,5 (91,5-94,5)	1290-1300*	1000 700	(89,0-96,0)	100 100-	119-129 -220 (80-240)		9,9-10,0 10,2-10,4 10,4-10,5

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (2) and Governors

40

WPP 001/4 KHD 12,7 k

1. Edition

En

PE 8 A 95 D 410 LS 2451

RQ 300/1075 AB 1046 DL

supersedes

company: engine

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

0 -45 -90-135-180-225-270-315° ±0,5° (±0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

1,95-2,15 2 00-2 10

mm (from BDC)

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1075	9.2-9.3	8.3-8.5	0,3(0,6)			
300	5,9-6,1	0,9-1,4	0,5(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che rev/min 1	Control rod		int Control	•	rev/min	Idle spec Setting p rev/min 7	Control rad travel	Test spe	cifications 5 Control rod travel	Torque o	Control rod (3)
600	15,6-16,4	600	16,0		1120-1135 1180-1210	300	6,0	100 300 350 - 450	min.7,5 5,9-6,1 390=2,0 max.1,0	1075 950 800 600	9,2-9,3 9,2-9,5 9,6-9,8 9,8-9,9

Torque-control travel on flyweight assembly dimension a =

0,3

Speed regulation: At

1120-1135 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	lelivery on control lever mp. 40°C (104°F)	Control rod stop 3	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rav/min 4	cm ³ /-1000 strokes 5 .		rev/min	Control rad travel cm ³ /1000 strokes:/ mm	
1075	83,5-85,5 (81,5-87,5)	600	1000	83,0-86,0 (81,0-88,0)	,	100	116,5-126,5	
			700	84,5-87,5 (82,5-89,5)				
			400	max. 84,5 (max. 86,5)				

Checking values in brackets

9.82

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WPP 001/4 KHD 12,7 i

1. Edition

PE 8 A 95 D 410 LS 2451

RO 300/1150 AB 1074 L

KHD supersedes

company:

F 8 L 413 F 173 kW (235 PS)

engine:

2300 min-1

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3 je $45^{\circ} \pm 0.5$ ($\pm 0.75^{\circ}$)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15) mm (from BDC)

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,3-9,4	8,6-8,8	0,3(0,6)			
300	5,9-6,1	1,4-2,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3	•	-	rev/min	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications Control rod travel mm 10		Control rod (3) travel mm
600	15,6-16,4	600	16,0		1195-1210 1120-1250 0-1,0	300	6,0	100 300 350- 450	min.7,5 5,9-6,1 390=2,0 max.1,0	1150 550 875 1000	9,3-9,4 9,7-9,8 9,6-9,8 9,3-9,6

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	<u>3</u> b	Starting for start	Control
rev/min t	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ men 7
1150	86,0-88,0 (84,0-90,0)	600 ·	100 700 400	86,5-89,5 (84,5-91,5) 86,5-89,5 (84,5-91,5) max. 84,5 (max. 86,5)		100	116,5-126,5

Checking values in brackets

9.82

BOSCH

restoil-ISO 4113

WPP 001/4 KHD 12,7 h

1. Edition

PE 8 A 95 D 410 LS 2451

RQV 300-1250 AB 1085 L

supersedes

company: engine.

KHD F 8 L 413 F

188 kW (256 PŞ)

/ 2500 min⁻¹

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

0 -45 -90 -135-180-225-270-315 ±0,5° (±0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings (1,95-2,15) Port closing at prestroke 2,00-2,10 mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
1250	10,3	9,2-9,4	0,3(0,6)			
300	7,1-7,3	1,8-2,4	0,3(0,5)			
		,				
					<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	1 1		Intermediate	rated sp	eed Control rod	Lower rated	speed	Control rod	Sliding s	leeve travel
Degree of deflection of control lever		Control rod (a) travel (mm rev/min (28)	of control	rev/min 5	mm 4	deflection of control lever 7	rev/min 8	travel mm 3 9	rev/min 10	mm 11
ca.68	1250 1500	15,2-17,8 0 - 1	-	-	-	ca.12		min.8,7 7,1-7,3 515 =2,0	300 650 1290	0,7-0,9 4,6-4,8 8,4
ca.64	9,3 4,0	1290-1300 1370-1400				<u>3</u>				

0,4mm Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed 20 limitation intermediate speed	Fuel deliv	pery characteristics (56)	Starting I Idle switchin	. 0	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes		cm ³ /1000 strokes	rev/min	mm 9
1	2	3	4	5	6	/	В	9
1250	91,5-93,5 (89,5-95,5)	1290-1300*	1000	91,0-94,0 (89,0-96,0)	100	119-129		10,3-10,4 10,7-10,8
	(03,0 33,0)		700		100-	220 (80-240)		10,7-10,8

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.82

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 12,7 e 1. Edition

PE 8 A 95 D 410 LS 2451

ROV 300-1150 AB 1096 L

supersedes company: KHD

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3

F 8 L 413 F

0 -45 -90 -135-180-225-270-315 ±0,5° (±0,75°)

159 kW (216 PS) / 2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke

Rotational speed ray/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,5-9,7	8,3-8,5	0,3(0,6)			
300	6,4-6,6	0,9-1,5	0,3(0,5)			
	•					
			1			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated a Degree of deflection of control lever	rev/min Controt rod travel	tasvei C	Intermediate Degree of deflection of control lever	rated sp	Control rod travel	Lower rated Degree of deflection of control tever 7	speed rev/min 8	Control rod travel	Sliding s rev/min 10	mm
ca.68	1150 1350	15,2-17,8 0 - 1				ca.14	100 300	min.7,5 6,4-6,6	300 425 1200	1,2 2,4-2,6 8,5
ca.64	8,6 4,0	1190-1200 1230-1260				330-400 ③				

Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) Fuel dalivery characteristics (5thingth idle speed (5b) ray/min cm²/1000 strokes		switchir	ng point	travel	Control rod travel	
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	mm 9+ 0,2
1	2	3	4	5	6	7	8	9, 0,2
1150	82,5-84,5 (80,5-86,5)		1000 400	90,5-93,5 (88,5-95,5) max.86,5 (max.88,5)	100	120,0-130,0	1150 1125 1000 400	9,6 9,7 10,4 10,4

Chucking values in brackets

* 1 mm less control rod travel than col. 2

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Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 15,8 1 2. Edition

PE 10 A 95 D 610/4 LS 2452 Komb.-Nr. C 400 C49 196

ROV 750 AB 996 L

supersedes . 82 companyKHD engine: F10L413F

> 142 kW/1500 min⁻¹(1) 162 kW/1500 min⁻¹(2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	
		1 a	2	3	mm 6
5-9,6	8,0-8,2	0,3 (0,6)			
6-5,8	0,4-0,9	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated ap	eed	Lower rated	speed	4	Sliding s	leeve travel
	rod travel	Control rod travel mm rev/min	(a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min		rev/min	mm ①
1	2	3		4	5	6	7	8	9	10	11
max.	760	15,2-17,	8 .	-	-	•	-	-	-	-	-
ca.27	9,0 4,0	750-755 770-785									
							3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	d stop mp. 40°C (104°F) 2	Rotational-speed (2b) Fuel delivery characteristic limitation intermediate speed (5b) rev/min cm³/1000 stroke		(S)	Starting fuel delivery 6 Idle switching point rev/min cm²/1000 strokes			Control roctravel
rev/min	cm³/1000 strokes	rgermin C	rev/min	cm*/1000 strokes	6	7	rev/min 8	mm
710 (1) 750 (2)	79,5-81,5 (77,5-83,5) 93,5-95,5 (91,5-97,5)	750-755*	-	-	100	min.116,5 = 13,9-14,3 mm RW	1	.

Checking values in brackets

"of ram less control rod travel than col. 2

5.84

BOSCH

Testoil-ISO 4113

E٩

supersedes

PE 10 A 95 D 610/4 LS 2452 Komb.-Nr. 0 400 649 201

RQV 300-1250 AB 1026 DL

company: engine: KHD F 10 L 413 F

11.82

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2 0 -27 -72 -99 -144 -171 -216 -243 -288 -315° ±0.5° (±0.75°)

`

235 kW (320 PS)

All test specifications are void for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

(1.95-2.15) mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
1250	10,3+0,1	9,1-9,3	0,3(0,6)			
300	6,8-7,0	1,4-2,0	0,3(0,5)			
					<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	peed			Intermediate	rated spe	oe d	Lower rated	speed	1	Sliding sleeve travel		
Degree of deflection of control lever	Control rod travel	travel ,	(a) (28)	Degree of deflection of control lever	rev/min 5	control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min 10	(1) mm 11	
max.	1295	15,2-17	,8	-	4	***	ca.12	100 300	min.7,5 5,9-6,1		0,5-0,8 2,8-3,1	
ca.66	9,3 4,0 1500	1290-130 1340-137 0 - 1					330-400	550-	680= 2,0 max. 1,0		4,6-4,9 7,6	
							3a					

Torque control travel a =

0,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational-speed 20 limitation intermediate speed	Fuel deliv	pery characteristics (56)	Starting idie switchin		Torque- travel	Control 6 Control rod	
rev/min cm³/1000 strokes		rev/min 49	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8		
1250	91,0-93,0 (89,0-95,0)	1290-1300*	1000 700	(88,5-95,5)	100	14,3-15,3 mm RW	1000 700	10,3+0,1 10,3+0,2 10,7+0,1 10,7+0,1	

Checking values in brackets

1 mm less control rod travel than col. 2

6.83

BOSCH

WPP 001/4 KHD 15,8 c 1. Edition

PE 10 A 95 D 6 10/4 LS 2452

ROV 300-1150 AB 1047 DL

supersedes

company:

engine:

KHD F 10 L 413 FW 192 kW (261 PS)

/ 2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2

0 -27 -72 -99 -144-171-216-243-288-315° ±0,5° (±0,75°)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,1	7,9-8,1	0,3(0,6)			
300	5,9-6,1	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

deflection of control	rev/min	Oontrol rod travel mm rev/min 2	of control		Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	Sliding s rev/min 10	mm
ca.68	1150 1350	15,2-17,8 0 - 1	-	-	-	ca.11	300	min.7,5 5,9-6,1 -600=2,0	300 750 1190	1,4-1,6 4,0-4,3 8,5
ca.64	8,1 4,0	1190-1200 1225-1255				325-400 3 <u>a</u>		_		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten		Rotational-speed 20 limitation intermediate speed	Fust delivingh idle s	rery characteristics 5a peed 5b	Starting idle switching	_	Torque- travel	Control Control rod
rev/min cm³/1000 strokes		rev/min 4	rev/min	cm ³ /1000 strr./ws	rev/min 6	cm³/1000 strokes	rev/min 8	mm 9
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	78,0-81,0 (76,0-83,0)	100	120-130	850	9,1-9,2 9,4-9,6 9,5-9,6

Checking values in brackets

* 1 mm less control rod travel than col. 2

110

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15.8 c 1 2. Edition

PE 10 A 95 D 610/4 LS 2452

ROV 300-1150 AB 1055 DL

supersed 6.83 company: KHD

Komb.-Nr. 0 400 649 210

engine: F 10 L 413 F 200 kW/2300 min⁻¹

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2 $0 - 27 - 72 - 99 - 144 - 171 - 216 - 243 - 288 - 315^{\circ} + 0,5^{\circ}(+0,75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke (1.95-2.15)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm . 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 8
1150	9,3-9,4	੪,4 - 8,6	0,3(0,6)			
300	5,9-6,1	0,9 - 1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lowerrated	speed		Sliding s	leeve travel
deflection	rod travel	Control rod travel mm rev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	
max.	1200	15,2-17,8	_	-	-	ca. 11	100 300	min. 7,5 5,9-6,1		1,5-1,8 3,7-4,0
ca. 64	8,3 4,0 1350	1190-1200 1230-1260 0 - 1,0				320-425		10,00,0	1100 1250	
						39				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

	d stop np 40°C (104°F) 2	limitation intermediate speed	rmediate speed		idle switchin	ng point	Torque-control (5 travel Control ro travel	
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1150	83,5-85,5 (81,5-87,5)	1190-1200*	850	92,0-95,0 (90,0-97,0)	100	116,5-126,5 (113,5-129,5)	500 950	9,3-9,4 10,3+0,6 10,0+0,6 9,4-9,6

Checking values in brackets

1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15,8 d 1. Edition

PE 10 A 95 D 610/4 LS 2452

RQV 300-1250 AB 1083 L

supersedes -

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2

company:

F 10 L 413 F 224 kW (305 PS)

0 -27 -72 -99 -144-171-216-243-288-315° ±0,5° (±0,75°)

/ 2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,00-2,10 mm (from BDC)

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,2	8,9-9,1	0,3(0,6)			
300	6,9-7,1	1,6-2,2	0,3(0,5)			
		_				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	qe beten e	eed	Lower rated	speed		Sliding s	leeve travel
	rev/min Control rod travel	Opentrol rod travel mm rev/min 2	of control	rev/min	Control rod trevel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
max.	1250 1500	15,2-17,8 0 - 1	-	-	-	ca.13		min.8,5 6,9-7,1 780 =2,0	1	1,5-1,7 2,9-3,2
ca.63	9,2	1290-1300 1350-1380			·	325-400 ③			1290	8,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-toad di Control-ro Test oil ter	d stop	intermediate speed	high idle s	0000 (5b)	Starting idle switchir		Torque- travel	Control Control roo
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1 000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	mm 9+ 0,1
1	2	3	-	5	•			
1250	88,5-90,5	1290-1300*	1000	87,5-89,5	100	116,5-126,5	1250	10,2
	(86,5-92,5)		1	(85,5-91,5)	•	/ 14,3 - 14,7 mm RW	900	10,3
			800	89,5-92,5 (87,5-94,5)		14,7 (IBII NW	800	10,5
						•		

Checking values in brackets

* 1 mm less control rod travel than col. 2

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15,8 h 1. Edition

PE 10 A 95 D 610/4 LS 2452

ROV 300-1150 AB 1086 L

supersedes

1 - 10 - 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2

KHD company:

F 10 L 413 F engine:

0 -27 -72 -99 -144-171-216-243-288-315° ±0,5° (±0,75°)

196 kW (266 PS) 2300 min⁻¹

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings (1,95-2,15)

Port closing at pres	UOKO	2,00-2.10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /1 00 strokes 3	mm 6
1150	8,5-8,6	7,8-8,0	0,3(0,6)			
300	5,9-6,1	1,3-1,9	0,3(0,5)			
						<u></u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed						Lower rated	speed I	Control rod	Stiding sleeve travel	
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min	(a)	Degree of deflection of control lever	rev/min		Degree of deflection of control lever	rev/min 8	travel 3	rev/min 10	mm 11
ca.68	1150 1350	15,2-17 0 - 1	,8	-	-	-	ca.19	100 300 430-	min.7,5 5,9-6,1 490 =2,0	300 750 1190	0,6-0,8 4,0-4,3 8,5
ca.64		1190-12 1220-12					3		_		

1.0 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil terr rev/min	stop np. 40°C (104°F) 2	timitation intermediate speed	(50)		Starting Idle switchir rev/min	ng point	Torque- travel	Control rod travel mm
1150	77,5-79,5 (75,5-81,5)	1190-1200*	800	85,0-88,0 (83,0-90,0)	100	119 - 129	1150 1000 800 400	8,5-8,6 9,1-9,3 9,4-9,5 9,4-9,5

Checking values in brackets

* 1 mm less control rod travel than col. 2

estoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 15,8 b

Εn

PE 10 A 95 D 610/4 LS 2452 RQV 300-1250 AB 1129 L 1 - 10 - 9 -4 - 3 - 6 - 5 - 8 - 7 - 2 0 - 27 - 72 - 99 -144-171-216-243-288-315° ±0,5° (±0,75°) supersedes

company: KHD F 1

F 10 L 413 F 228 kW (310 PS) / 2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.95-2.15) mm (from BDC)

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
10,3+0,1	9,1-9,3	0,3(0,6)			
6,4-6,6	1,2-1,6	0,3(0,5)			
•					
	mm 2 10,3+0,1	travel mm cm³/100 strokes 2 3 10,3+0,1 9,1-9,3	travel cm ³ /100 strokes 2 cm ³ / 100 strokes 4 10,3+0,1 9,1-9,3 0,3(0,6)	travel cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 4 2 cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 4 cm ³ /100 strokes 2 cm ³ /100 strokes	travel cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 2 cm ³ /100 strokes 3 cm ³ /100 strokes 2 cm ³ /100 strokes 2 cm ³ /100 strokes 2 cm ³ /100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated : Degree of deflection of control lever	rev/min Control rod travel	Oontrol rod travel mm rev/min 2	of control	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel	Sliding s rev/min 10	mm
max.	9,3 4,0 1475	15,2-17,8 1290-1300 1365-1395 0 - 1,0		-	-	ca.14		min.19,0 6,4-6,6	550	1,0-1,2 3,4-3,8 5,4-5,6 8,0

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		Rotational-speed (20) limitation intermediate speed	(3)		idle switchir	ng point	Torque- travel	Control Control rod travel
1	2	3	4	5	6	7	8	9
1250	90,5-92,5 (88,5-94,5)	1290-1300*	1000 800	(88,5-95,5)	100	120,0-130,0	500 800	10,5+0,1 10,5+0,1
				(91,5-98,5)			950	10,3+0,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung. C by Robert Bosch GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany. Imprimé en République Federale d'Allemagne par Robert Bosch GmbH. Festoil-ISO 4113

WPP 001/4 KHD 19,0 n

2. Edition

supersedes 3,83

PE 12 A 95 D 610 LS 2453

RQV 750 AB 996 L

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12

0 -15 -60 -75 -120-135-180-195-240-255-300-315° $\pm 0.5^{\circ}$

10,5° +0.75° Kom

company: KHD engine: F 12 L 413 F

Komb.-Nr.0 400 640 094

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

170 kW/1500 min⁻¹ (1) 194 kW/1500 min⁻¹ (2)

Port closing at pres	strok e		mm (from BDC)		134 KM/ 1300 III (17				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)			
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm			
1	2	3	4	2	3	6			
710	9,5-9,6	8,0-8,2	0,3(0,6)			_			
300	5,6-5,7	0,4-0,9	0,3(0,5)						
				1	İ				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed							speed i	Sliding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(a) (2e)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min 10	mm 11
ca.27	9,0 4,0	750-75 770-78		-	•	-	-	-	•	-	-
							3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		limitation intermediate speed	(3)		Starting Idle	<u> </u>	Torque-control (travel Control (travel	
	rev/min	cm³/1000 strokes	rev/min 4a)	rev/min	cm ³ /1009 strokes		cm ³ /1000 strokes	rev/min	mm
	1	2	3	4	5	6	,	В	
(1)	750	79,5-81,5 (77,5-83,5)	750-755*	-	-	100	120,0-130,0 = 13,8-14,5	-	-
(2)	750	93,5-95,5 (91,5-97,5)					mm RW		

Checking values in brackets

• 0, 5 less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 19,0 n 1

1. Edition

PE 12 A 95 D 610 LS 2453 RQV 1150 AB 996 L Komb.-Nr. 0 400 640 096

supersedescompany: KHD

1-4-9-8-5-2-11-10-3-6-7-12 $0-15-60-75-120-135-180-195-240-255-300-315^{\circ} \stackrel{+}{=}0,5^{\circ} (\stackrel{+}{=}0,75^{\circ})$

engine. F 12 L 413 F

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	2,0-2,1 (1.95-2.15)	(1,95-2,15) mm (from BDC)							
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6				
1110	9,3-9,4	8,6-8,8	0,35(0,6							

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	peed			Intermediate	1			Lower rated speed				eeve travel
deflection	rev/min Control	Control rod travel	①	Degree of deflection		Control rod travel	Degree of deflection of control		Control root travel	1		ı O
of control lever	rod travel	LeA/WID	②	of control lever	rev/min	mm ④	lever	rev/min	mm (3		
1	2	3		4	5	6	7	8	8		10	11
ca. 27		1150-115 1175-119		-	-	-	•	-	-		1075 1150 1200	0,6 4,0 6,7
							3 a)					

Torque control travel a =-

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop	Rotational-speed (20) limitation intermediate speed			Starting Idle switching	, •	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	:ev/min	travel 命命
1	2	3	4	5	6	7	8	9
1110	85,5-87,5 (83,5-89,5)	1150-1155*	•	-	-	-	•	•

Checking values in brackets

* 1 mm less control rod travel than col 2

PE 12 A 95 D 610 LS 2453

ROV300-1150 AB 1047 DL

KHD company:

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12 0 -15 -60 -75 -120-135-180-195-240-255-300-315° ±0,5° (± 0,75°) F12L413FW 230kW(313PS) 2300min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15)2.00-2.10

mm (from BDC)

Rotational speed rev/min	Control rod	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,1-9,2	7,9-8,1	0,3(0,6)			
300	5,9-6,1	0,9-1,5	0,3(0,5)			
	•					
	}					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection	rev/min Control rod travel	Control rod ta travel mm 28	Intermediate Degree of deflection of control lever	rated spore	Control rod travel mm 4	Lower rated Degree of deflection of control taver 7	rev/min 8	Control rol travel mm	d 3	Sliding s rev/min 10	mm
max.	1150	15,2-17,8	-	•	-	ca.11	100 300 540-6	min.7, 5,9-6, 00=2,0		300 750 1190	1,4-1,6 4,0-4,3 8,5
ca.64	8,1 4,0 1350	1190-1200 1225-1255 0 - 1,0				325-400 3a					

Torque control travel a = 0.5

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		Rotational-speed (20) limitation intermediate speed rev/min (4e)	high idle s	peed 5b cm³/1000 strokes	switchin		travel	Control (5) Control rod travel
1	2	3	4	5	6	7	8	9
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	78,0-81,0 (76,0-83,0)	100	119-129	850	9,1-9,2 9,4-9,6 9,5-9,6
						_		

Checking values in brackets

1 mm less control rod travel than col. 2

supersedes -

PE 12 A 95 D 610 LS 2453

ROV 300 1150 AB 1056 DL

company: KHD

Testoil-ISO 4113

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12

BF 12 L 413 FWC 272 kW (370 PS)

0-15-60-75-120-135-180-195-240-255-300-315° ±0.5 (±0.75°)

/ 2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings 2,0-2,1 Port closing at prestroke (1,95-2,15)

mm (from BDC)

		.95-2.131				T
Rotational speed	Control rod travel	Fuel delivery		Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	13	6
1150	10,3+0,1	9,1-9,3	0,3(0,6)			
300	6,4-6,6	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rev/min	Control rod	©	Intermediate Degree of deflection	rated sp	control rod travel	Lower rated Degree of deflection	speed	Control rod	Sliding a	eleeve travel
of control	rod travel mm 2	mm rev/min 3	2	of control lever 4	rev/min 5	mm (4)	of control lever 7	rev/min 8	mm 3	rev/min 10	mm 11
max.	1150	15,2-17	8,	•	•	•	ca.14		min.8,0 6,4-6,6		0,2-0,8 2,8-3,2
ca.66	9,3 4,0 1350	1190-120 1240-127 0 - 1	70				310-380		•, •,•		4,7-5,0 7,9
				120			3				

Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		intermediate speed	Fuel delh high idle s		idle switchir	ng point	travel	Control rod travel
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	tev/min	mm
1	2	3	4	5	6	7	8	8
LDA 1150	0,5 bar 90,5-92,5 (88,5-94,5)	1190-1200*	LDA 775 LDA 500	0,32 bar 94,5-98,5 (92,5-100,5) 0 bar max.76,5 (max.78,5)	100	119,0-129,0 / 14,4- 14,6 mm RW	500 775	10,3+0,1 10,7+0,1 10,7+0,1 10,5+0,2

Checking values in brackets

* 1 mm less control rad travel then col. 2



D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

KHD 19,0 1

	Pump/governor	Setting	Measurement	diminution Control rod travel- difference
		Gauge pressure ≃ bar	Gauge pressure = bar	mm (1) .
estoil-ISO 4113	PE 12 A LS2453 withAB 1056 DL	0,7	0 0,33 0,28	10,7 - 10,8 10,2 - 10,3 10,6 - 10,7 10,4 - 10,6

rev/min and gauge pressure =

bar (= maximum full-load control rod travel) ...

J19

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 19,0 k

3. Edition

RQV 300-1150 AB 1083 L PE 12A 95D 610 LS 2453 Komb.-Nr. 0 400 640 106

1.83 supersedes KHD

F 12 L 413 F 260 kW(352PS)

1 - 4 - 9 - 8 - 5 - 2 - 11 - 10 - 3 - 6 - 7 - 12 enging $0 - 15 - 60 - 75 - 120 - 135 - 180 - 195 - 240 - 255 - 300 - 315° <math>\pm 0,5°$ ($\pm 0,75°$)

/ 2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings (1,95-2,15) Port closing at prestroke 2,00-2,10

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	9,5-9,6	8,8 - 9,0	0,3(0,6)		· ·	
300	6,4-6,6	1,6 - 2,2	0,3(0,5)			
	•					
	1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated at Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(a) (2a)	Intermediate Degree of deflection of control tever	rated spe rev/min 5	control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm	Stiding rev/m	g sleeve travel
max.	1150	15,2-17	,8	•	-	-	ca.16		min.8,0 6,4-6,6 00=2,0		0 4,0-4,3
ca.66	8,5 4,0 1400	1190-120 1240-120 0 - 1					320-400 3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc	stop	limitation	Fuel delin high idle s	very characteristics (50)	Starting Idle switching		Torque- travel	control (5)
rev/min ch³/1000 strokes		intermediate speed rev/min 46	rev/min	cm ³ /1000 strokes	rev/min		rev/min	travel mm
1	2	3	4	5	6	7	8	9
1150	87,5-89,5 (85,5-91,5)	1190-1200*	700 1000	88,0-91,0 (86,0-93,0) 87,0-90,0 (85,0-92,0)		125,0-135,0 (122,0-138,0) = 14,3-14,7 mm RW	945 800 700	9,5-9,6 9,5-9,8 9,8-10,0 9,9-10,0
					100-	220 (80-240)		

Checking values in brackets

* 1 mm less control rod travel then col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 19,0 i
1. Edition

En

PE12 A 95D 610 LS 2453 RQV 300-1150 AB 1086 L

Komb.-Nr. 0 400 640 105
1- 4- 9- 8- 5- 2- 11- 10- 3- 6- 7- 12
0-15-60-75-120-135-180-195-240-255-300-315°+ 0,5° (+ 0,75°)

upersedes
compank*HD
engine F 12 L 413 F
247 kW/2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke (1,95-2,15)Spring pre-tensioning (torque-control valve) Control rod travel Control rod Fuel delivery Fuel delivery Difference Rotational speed cm³/ 100 strokes cm³/100 strokes mm rev/min cm3/100 atrokes mm 8.7-8.8 8,2 - 8,40.3(0.6)1150

300 5,9-6,1 1,3 - 1,9 0,7(0,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection	rev/min Control rod travel	travel	Intermediat Degree of deflection of control lever	rev/min	Control rod travel mm 4	Lower rated Degree of deflection of control lever	speed rev/min 8	Control rod travel		mm
max.	1150	15,2-17,8	3 -	-	-	ca. 23	100	min. 7,5		0,3-0,5 2,5-2,7
ca. 60	7,7 4,0 1350	1190-1200 1225-1259 0-1,0				450-520 3a	300	5,9-6,1	850 150	4,5-4,7 7,8

Torque control tavel a = 0,9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm²/1000 strokes		Rotational-speed (2b) limitation intermediate speed rev/min	Fuel deliv high idle s rev/min	peed (5b)	awitchir	. •	Torque- travel	Control rod travel
1	2	3	4	5	6	7	8	9
1150	81,5-83,5 (79,5-85,5)	1190-1200*	800	89,0-92,0 (87,0-94,0)	100	120,0-130,0 117,0-133,0)	400 800	8,7-8,8 9,6-9,7 9,6-9,7 9,3-9,5

Checking values in brackets

* 1 mm less control rod travel than col. 2 3.84 Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 19,0 m

2. Edition

Er

PE 12 A 95 D 610 LS 2453 KOMD.-Nr. 0 400 640 108

RQV 300-900 AB 1090 L

supersede 3.83 company: KHD

KOMD.-Nr. U 400 640 100

engine F 12 L 413 FW

177 kW (240 PS) 1800 min

All trast specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
6 00	9,2-9,3	7,2 - 7,4	0,35(0,6)			
300	5,9-6,1	1,0 - 1,6	0,35(0,55)		
						1

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated t	speed		Intermediate	rated ap	bed	Lower rated	speed		Sliding s	leave travel
	rev/min Control	Control rod travel	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		\odot
of control lever	rod travel	mm rev/min 2e	of control lever	rev/min		of control lever	rev/min	mm ③	rev/min	mm 11
1	2	3	4	5	6	7	8	9		
max.	925	15,2-17,8	-	-	 -	ca. 24	100	min.7,5	250	0,5-0,7
543	134	060 (060)					300	5,9-6,1	470	4,0-5,2
ca. 59	7,4	940- 950 980-1010		1			345-4	05 = 2,0	680	6,2-6,5
1	1100	0 - 1,0					Ì		900	8,2
			,			30				

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) rev/min cm³/1000 strokes		Rotational-speed (2b) limitation intermediate speed rev/min (4a)	high idle speed (50)		idle switchir		Torque- travel	Control 5 Control rod travel mm
1	2	3	4	5	6	7	8	9
600	72,0-74,0 (70,0-76,0)	940-950*	750 850	80,5-83,5 (78,0-86,0) 72,5-75,5 (70,0-78,0)	100	19,0-21,0 mm RW	900 500 710 855	8,4+0, 9,2+0, 8,9+0,6 8,5+0,

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 6,1 el 4. Edition

En

PES 6 A 95 D 410 RS 2471 RSV 325-1150A 8 B 674 DL Komb.-Nr. 0 400 876 275

supersedes company engine 9.82 KHD BF 6 L 913 C 132 kW / 2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05) 1,90-2,00

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ⁹ 100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
1150	11,8+0,1	10,8-11,0	0,3(0,6)			
325	7,2-7,4	1,6-2,2	0,3(0,5)			
					İ	
				1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	effection fravei travei travei travei mm rev/min			hate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 2 1	rque control Control rod travel mm
loose	800 x =	0,3-1,0 4,75	-	•	-	ca.15	325 100	6,8 min.19	500	11,8+0,1
ca.55	1235-12	00=10,8 65= 4,0 3 - 1,7					325 615-675	7,2-7,4 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil temp 40°C (104°F) rev/min cm³/1000 strokes		Rotational- speed limitat Note. changed to) rev/min	rev/min cm³/1000 strokes		Starting fuel delivery 5 Idle rev/min cm²/1000 strokes		Idle stop Control rod travel rev/min mm 8	
LDA 1150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA	0,7 bar 102,5-105,5 (100,5-107,5) 0 bar 62,0-64,0 (59,5-66,5)	100	120,0-130,0 = 15,9 - 16,4mm RW	325	6,8

Checking values in brackets

* 1 mm less control rod travel than col. 2

6.83

BOSCH

J23

D. Adjustment Test for Manifold Pressure Compensator

KHD 6.1 e 1 - 2 -

'estatn	500	rev/min decreasing pressi	ure - in bari	gau ge pre ssure		
Pump/governor		Setting	Me	asurement		diminution Control rod travel difference
		Gauge pressure	bar Ga	uge pressure	bar	mm (1)
2471 +	674 DL	0,7 bar				11,8 - 11,9
				0		10,6 - 10,7
				0,27		11,6 - 11,7
				0,1		10,8 - 11,0

Notes (1) when n

rev/min and gauge pressure

bar (maximum full load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 6,1 e 7. Edition

Eπ

PES 6 A 95 D 410 RS 2471 Komb.-Nr. 0 400 876 274 RSV 325-1150 A 8 B 707 DL

supersedes 6.83
company KHD
engine BF 6 L 913 C

Combination 2300

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9-2,0 (1,85-2,05) mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ⁹ / 100 strokes	mm 2	cm³/100 strokes	mm 6
1150	11,8+0,1	10,8-11,0	0,3(0,6)			
325	7,1-7,3	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	d rev/min Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	IL J	rque control Control rod travel mm 11
loose	ŧ	0,3-1,0 4,75	-	••	-	ca.21	325 100 325	6,7 min.19,0 7,1-7,3	1	11,8-11,9 11,8-12,0
ca.55	10,8 4,0 1400	1190-1200 1235-1265 0,3-1,7					590-65			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat	11.34	uel delivery naracteristics	Starting f	uel delivery 5	4a ldf	e stop
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm [®] /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
LDA 1150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA 500	0,7 bar 102,5-105,5 (100,0-108,0) 0 bar 62,0-64,0 (59,5-66,5)	100	125,0-135,0 (122,0-138,0) = 15,5 - 15,8 mmRW		-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

KHD 6,1 e

- 2 -

Test at n

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure : bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2471 + RSVA 8 B707DL	0,70	0,37 0,09 0	11,8-11,9 11,5-11,6 10,1-10,3 9,9-10,1

Notes

(1) when n

rev/min and gauge pressure =

bar (- maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 KHD 8,5 c 2. Ediction

PE 6 A 85 D 410 LS 2472

RQ 300/1200 AB 867 D RQV 300-1200 AB 915 D ./.

supersedes K H D company F 6 L 413 W

Cam sequence and angular com spacing

1-6-5-4-3-2-1

0 - 75 - 120 - 195 - 240 - 315 - 360°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.9 + 0.1

mm (from BDC bei max. RW

	travet		Difference cm ¹ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve
Pv/min	mm	cm ⁴ /100 strokes	100 strokes	mm	cm ¹ /100 strokes	mm
	2	3	4	2	3	6
1000	9	5.0 - 5.5				
	6	1,3 - 2,1				
200	9	3,9 - 4,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ ... 867 D

Checking	g of slider	Full-load	speed re	gulation		idle spe	ed regula	stion		Tarque o	ontrot
		Setting p	oint	Test spe	cifications	Setting point Te		Test spe	Test specifications		
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm	rev/min 5	Control rod travel mm 6	rev/min 7	Control rod travel rmm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel mm 12
600	15,7-16,3	600	16,0	1230 1270 1300	7,0-12,0		0	100 200 350	6,9-8,1 5,6-7,7 1,8-4,2	650 800	15,8-16,0 14,6-15,1
				1370				450	0	920	13,6-14,

Torque control travet on flyweight assembly dimension a

0,75 mm

Speed regulation 1240 - 1255

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	lelivery on control lever p. 40°C (104 F)	Control rod stop	fuel deliv	ery characteristics	Starting	luei dalivery
rev/min 1	cm ¹ /~1000 strokes	rev/min 3	rev/min	cm ⁴ /-1000 strokes 5	rev/min 6	cm ³ /100 strokes 7
1200	67,5 - 69,5	800	1000 800	67,0 - 70,0 74,5 - 77,5	100	ca. 15 mm RW
						./.

Checking values in brackets

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed	•	Sliding sli	eeve travel
Degree of deflection of control lever		Control rod travel mm rev/min	(b)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	mm 11
ca. 66	1255 1300 1400	15,0-18 11,0-15 0,5-8	,0	-	-	-	ca. 10	100 300 450	7,0-8,0 4,6-6,2 2,7-4,4	1255 1250	8,3
	1500	0					(3a)	600 820	1,5-3,0	600	1,5-1,6

Torque control travel a - 1,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) limitation intermediate speed	character high idle !	ristics	tdle	fuel delivery 6	Torque- travel	Control 5 Control rod
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm³/1000 strokes 5	rev/min	cm /1000 strokes 7 •	rev/min 8	mm 9
1200	67,5 - 69,5	1240 - 1250*	1000 800	67,0 - 70,0 74,5 - 77,5	100	ca. 15mmRW		
					chan 180-	ge-over point 250 U/min		

Checking values in brackets

* 1 mm less control rod travel than co: 2

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

rev/min decreasing pressure - in bar gauge pressure

PL	imp/governor	Setting	Measurement	diminution Control rod travel- difference
		Gauge pressure = bar	Gauge pressure = bar	mm
ĺ				

estoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 19.0 c

1. Edition

PE 12 A 95 D 520 RS2475

ROV 300-1150 AB932DR

supersedes

company K H D

BF 12 L 714 (340 PS)

1 - 8 - 5 - 10 - 3 - 7 - 6 - 11 - 2 - 9 - 4 - 12 $\overline{0}$ -15 -60 - 75 -120-135-180-195 -240-255-300-3150 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,4 + 0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,0	0,4			
	6	3,4 - 4,2	1			
200	6	0,6 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	rated spi		Lower rated	speed	1		eeve travel
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm 6	Degree of deflection of control lever	rev/min 8	Control rod travel mm 9	rev/min	ontrol travel mm 11
ca.68	1150 1180 1220 1260 1320	13,0-16,5 9,0-14,0 3,4-10,0 0-6,0 0	-	-	•	ca.10	100 300 400 500 750	6,8-8,0 4,8-7,0 3,0-5,2 2,2-3,8	1150 1130	0,3-1,0 8,8 0 0,8-1,0

Torque control travel a

(1,9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed limitation	, , , , , , , , , , , , , , , , , , , ,		Starting Idle switchin	fuel delivery ng point	Intermediate rotational speed Torque-control travel	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	t6A\WIU	mm
,	2	3	4	5	6	7	8	
LDA 1150	0,65 bar 95,5 - 97,5	1190-1200*	LDA 1000 600 LDA 500	0,65 bar 105,5-107,5 99,5-103,5 0 bar 80,5-82,5	Chang 18	e-over point 0-250 min ⁻¹		

Checking values in brackets

• 1 mm less control rod travel than col 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique F\u00fcderale d'Alfernagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

600

rev/min decreasing pressure - in bar gauge pressure

KHD 19,0 c

-2-

Testoil-ISO 4113

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
2475 with 932DR	0,68	0,28	Full load-RW - 0,2

Notes.

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

16

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 4,1 c 1 1. Edition

En

PES 4 A 80 D 410/3 RS 2523 Komb.-Nr. 0 400 864 044 RSV 325-1400 A 8 B 540DL

supersed?s company KHD F 4 L 912 engine Einbau 2800

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,85-2,05)

mm (from BDC)

というの	
	1

Rotational	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm 2	cm //100 strokes	cm ^{-/} 100 strokes	mm 2	cm:/100 strokes	mm 6
1380	10,2+0,1	5,7-5,8	0,2(0,35)			
325	8,0-8,2	0,9-1,5	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	er rated speed	rev/min	Interm	ediate rati	ed speed	(4)	Lowe	er rated speed	((マ)	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control lever deflection in degrees 7	rev/min	Control rod travel mm	revimin	Control rod travel mm
loose	800 x=	0,3-1,0	-	*	•	ca.19	325 100	7,6 min.19,5	1380 900	10,2-10,3 10,8-11,1
ca.67	9,2 4,0 1600	1420-1430 1450-1480 0.3 - 1.7					325 670 -	8,0-8,2 730 =2,0	500	11,4-11,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(4)	emp 40°C (104 F)	Rotational- speed limitat		iel delivery paracteristics	Starting (uel delivery 5	43 Idi	e stop Control rad
rev/min	cm //1000 strokes 2	changed to) rev/min 3	rev/min	cm=/1000 strokes 5	rev/min	cm v1000 strokes 7	rev/min 8	travel mm 9
1380	57,0-58,0 (55,5-59,5)	1420-1430*	•	-	-	~ •	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

3.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprimé en République Fédéraie d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuel injection Pumps (A) and Governors

40

WPP 001/4 KHD 4,1 c 2

2. Edition

Eπ

supersedes 1 . 83

KHD

company F. A. I. O

Road-building machine 59 kW/2500 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

PES 4 A 80 D 410/3 RS 2523

Komb.-Nr. 0 400 864 058

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm 2	cm 7100 strokes 3	cm ^{-/} 100 strokes 4	mm 2	cm·/100 strokes	mm 6
1250	11,6+0,1	6,9-7,0	0,25(0,4)			
325	8,2-8,4	1,0-1,6	0,2 (0,35)			

RSV 325-1250 A 8 B 540-1 L

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r raled speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees	Lower rev/min 8	rated speed Control rod travel mm	3 to	rque control Control rod travel mm
loose	800 X=	0,3-1,0 4,0	-	•	-	ca.17	325 100	6.5 min.19,5	1250 500	11,6-11,7 12,1-12,2
ca.56	10,6 4,0 1555	1290-1300 1390-1420 0,3-1,7					325 630-69	6,9-7,1 D = 2,0	965	11,8-12,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ull-load stop	6 Rotational speed limital		uel delivery naracteristics	Starting I	luel delivery 5	4a Idle stop		
rev/min	emp 40 C (104 F) cm ^{-/} /1000 strokes 2	Note changed to 1 rev/min 3	rev/min	cm ^{-/1} 000 strok ės 5	rev/min	cm > 1000 strokes 7	revimin 8	Control root travel mm	
1250	68,5-69,5 (67,0-71,0)	1290-1300*	800	64,5-66,5 (62,5-68,5)	-	-	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
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Improved an Republic Medicals California on a Republic Rosch Grahm.

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 4,1 c 1. Edition

En

PES4A80D410/3RS2523

RS325/1400A0B699DL -

supersedes

company

engine

KHD F4L913

2800min-1 64 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

1,90-2,00 mm (from BDC) (1,85-2,05)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	12,0+0,1	6,8 - 6,9	0,2(0,35)			
325	8,4-8,6	0,9 - 1,5	0,2(0,3)			
				<u> </u>	<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	9	rque control Control rod travel mm
loose	800 x =	0,3 - 1,0 5,25			<u> </u>	VHva.55		8,5 min.11,0		12,0-12,1 12,2-12,5
VHca.55		1450=11,0 1530= 4,0 0,3 - 1,7					425-455 180-230	=5,5	550	12,8-12,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotational- speed limitat		uel delivery naracteristics	Starting f	uel delivery 5	4a Idle stop		
Test oil to rev/min	emp 40°C (104°F) cm³/1000 strokes	Note- changed to) rev/min	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm	
1400	68,0-69,0 (66,5-70,5)	1440-1450*	800	61,5-63,5 (60,0-65,0)	-	-	325	8,5	

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Testoil-ISO 4113 Fuel Injection Pumps H00 001/4

1. Edition

KHD 5.1 d

PES 5 A 80 D 410/3 RS2526 (1) EP/RSV 325-1150 A3 B2014DL

PES 4 A 30 D 410/3

RS2523 (2)

325-1400 A2 B1022DL engine

En

KHD F5 L912 F4..

1 - 3 - 5 - 4 - 2 +0.50 $0 - 72-144-216-288^{\circ} (\mp 0.75)$

and Governors

(1 - 63kW - 85PS)(2 - 64kW - 87PS)

All test specifications are valid for Bosch Fuel Injection Firmp Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,90-2,00

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	1,85-2,05) Fuel delivery 2526 cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery	Spring pre-tensioning (torque-control valve) mm 6
1150	11,8	5,5 - 5,6	0,2(0,35	12,0	6,9 - 7,1	n = 1400
	+0,1			+0,1		
325	9,0-9,2	0,9-1,5	0,2(0,3)	8,8-9,0	0,9 - 1,5	n = 325
775/850		C, 4-5	0,3(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

2014DL (1)

Upper Degree of deflection of control lever	rated speed	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel	Degree of deflection of control	rated spe rev/min 8	ed Control rod travel mm	3 Tor	que control Control rod travel mm
loose	800 X =	0,3-1,0		<u> </u>	Į v	ca.21	325 100	5,0 min. 19	11 50	+0,1 11,8 12,1
€a.55	10,8 4,0 1350	1190-1200 1235-1265 0,3 - 1,7					325 390-4 500	5,4-5,6 50 = 2,0 0 - 1	775	12,7 12,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(Sa) Idi	stop
	1	Note: changed to rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm
1150	55, 5 - 56, 5 (54, 0 - 58, 0)		775	57,0 - 59,0 (55,5 - 60,5)	:			
								./.

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

1022DL (2)

Upper Degree of deflection of control lever	rated speed rev/min 2		Intermediate Degree of deflection of control lever	1	ed Control rad travel mm 6	4 Lowe Degree of deflection of control lever 7	rev/min	Control rod travel mm	3 Tor	que control Control rod travel mm 11 + 0,
loose	800 X	0,3-1,0 - 4,5				ca.21	325 100	5,0 min. 19		12,0 12,3
ca.58	11,0 4,0 1650	1440-1450 1505-1535 0,3-1,7					325 525-9 700	5,4-5,6 85 = 2,0 0 - 1		13,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-li	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle	Stop Control rod
Test oil ten rev/min 1	mp 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm
1400	70,0 - 71,0 (68,5 - 72,5)	1440-1450 *	850	61, 5 - 63, 5 (60, 0 - 65, 0)				
			63)					

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

1 Upper Degree of deflection of control lever	rev/min	Control rod travel	Intermediate Degree of deflection of control lever	Control rod travel mm	4 Lowe Degree of deflection of control lever 7	rev/min	ced Control rod travel mm	que control Control rod travel mm
(5)								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	Speed milita		3a Fue cha	el delivery aracteristics	Starting Idle	fuel delivery	6	Stop Control rod
1 1	40°C (104°F) cm³/1000 strokes	Note changed to rev/min	rev/min	.cm ³ /1000 strokes	rev/min	cm ³ / 1000 strokes 7		travel mm 9
	2							
			İ					

Checking values in brackets

* 1 mm less control rod travel than col 2

K11

Test Specifications Fuel Injection Pumps and Governors

WPP001/4 KHD 1 g 7 1. Edition

En

PES5A80D410/3RS2526 RSV 325-1200A8B2147L

1-3-5-4-2 je 72 $\stackrel{+}{-}0,5$ ($\stackrel{+}{-}0,75$)

supersedes_

company KHD

F5L912

65 kW (88 PS)

DX 90-S 22 Tractor

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
1,9-2,0
Port closing at prestroke (1,85-2,05) mm (from BDC)

Rotational speed		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1200	11,5+0,	1 6,0 - 6,1	0,2(0,35)		
325	8,9-9,1	0,9 - 1,5	0,2(0,3)			
	ŀ	l				
	ļ				1	
	1					

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	ated speed		Intermediate	rated spe	rated speed 4 Lo					
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel mm
1	2	3	4	5	6		8	9		
	800 0	,3-1,0	-	-	-	ca.19	325	8,5	1200	11,5+0,
loose		= 4,5					325	8,9-9,1	500	12,1+0,
į	^		1				465-5	25=2,0	950	11,8+0,
ca. 56		1250 = 10	_			İ				'
(5)		1315 = 4,0 = 0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	ad stop	6 Rotational- speed limitat.				fuel dolivery	Sa) Idle stop	
Test oil temp rev/min 1		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1200	60,0 - 61,0 (58,5 - 62,5)	1240-1250*	800	58,0 - 59,0 (56,5 - 60,5)	100	19,0-21,0 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 1 i 1

(6) 77kW (105PS) (8)85kW (115/PS)

2500min 2500min

5. Edition

supersedes 82 300-1400 AB 951 DL (1-2) PES 6 A 80 D 410/3 RS 2527 ROV 300/1400 AB 935 DL (3) companyKHD RS 2348 RO engine F 6 L 913

2800min_1 (1-2) 96 kW (130PS) / 300/1325 AB 935 DL (4,7) Instructions for item 2 and 5 2800min 300/1250 AB 935 DL (5-6) (3) 96kW (130PS) (4,7)92kW (125PS) (8) 2650min page 5.
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers (5) 89kW (121PS) 2500min

A. Fuel Injection Pump Settings

1.9 - 2.0mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring/pre-tensioning (torque-control valve) mm 6
1250	12,5+0,1	6,7 - 6,9	0,2(0,35)			
300	8,0-8,2	1,0 - 1,6	0,2(0,3)			
			İ			
	,					

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

.. RS 2527 PS 2348 ROV. AB 951 (1-2) Intermediate rated speed Lower rated speed Upper rated speed Stiding sleeve travel rev/min Control rod Degree of Degree of Control rod Degree of Control rod **(1a)** (1) travel deflection travel deflection deflection Control travel of control of control rodtrave mm (3) rev/min mm ev/min lever rav/min mm lever ray/min mm lever 10 ca. 12 100 min.7,5 250 0,4-1,0 15,2-17,8 max. 1470 2,8-3,5 5,9-6,1 630 300 ca. 65 11.0 1440-1450 530-590= 2.0 020 4,6-5,0 1545-1575 4,0 410-650 400 7,6 1700 0 - 1,0 $^{oldsymbol{(3)}}$

Torque control travel = 0,9

C. Settings for Fuel Injection Pump with Fitted Governor

	d stop np. 40°C (104°F) 2	Rotational-speed (2b) fimitation intermediate speed (a)	(3)		switchir	ng point	Torque-control (5 travel Control ro travel rev/min mm	
rev/miñ 1	cm ³ /1000 strokes - 2	3	4	5	6	%%% %%%%% 7	8	9
1400	69,0-70,0 (67,5-71,5)	1440-1450*	700	64,5-66,5 (63,0-68,0)	100	_ ,		12,0+0,1 12,3+0,3 12,8+0,2

Checking values in brackets

* 1 mm less control rod travel than col 2

6.83

K13

Testoil-ISO 4113

B. Governor Settings

- ..RS 2527 u. ..RS 2348 m. RQ 300/1400 AB 935 DL (3)

Setting point

rev/min

idle speed regulation

rod travel

mm

KHD 1 i 1

Test specifications (5)

travel

mm

10

rev/min

Control rod

-2-Torque control Control rod travel mm rev/min 12 1400 12,0-12,1

950 12,5-12,8

700 13,0-13,2

rev/min	mm
1	. 2
•	
700	19,2-20 ta. 46°
VH (ta. 46°
:	1

! fravel

Control rod

Checking of slider

PRG check

20,0 11,0 700 4,0 1700

rev/min

Setting point

Full load speed regulation

Control

mm

rod travel

1445-1460 300 8,5 100 min. 10,0 300 8,4-8,6 1540-1570 600-640=2,0mm 0 - 1,0750 max.1,0

> 1 mm less control rod travel

Torque control travel on flyweight assembly dimension a

Speed regulation At

1C. Settings for Fuel Injection Pump with Fitted Governor

Test specifications

rev/min

Control

mm

red travel

	elivery on ontrol lever p 40°C (104 F)	Control rod stop 3a	Fuel delive	ery characteristics	772	Starting for	Į Co	6 solitor
rev/min 1	cm '/- 1000 strakes 2	rev/min 3	rev/min	cm'/- 1000 strokes 5		rev/min	cm 1/1000 strokes / m	d travel
1400	69,0 - 70,0 (67,5 - 71,5)	-	700	64,5-66,5 (63,0-68,0)		-	-	
٠								
	6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1						

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

..RS 2527 u. ..RS 2348 m. RQ 300/1325 AB 935 DL (4,7)

ontrol rod avel	11	ontrol on travel	Test spec Control red travel	rev/min	fdle spec Setting p rev/min 7	Control rod travel	Test spe	Control rod travel	rev/min	Control rod (3)
19,2-20,8 . 46°	820 2		11,5 4,0 1600	1370-1385 1460-1490 0 - 1,0		6,0	300 500-5	5,9-6,1 $40 = 2,0$	1325 775 875 1000	12,5-12,6 13,6-13,7 13,2-13,4 12,6-12,9

Torque control travel on flyweight assembly dimension a

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full load d	delivery on control lever mp. 40°C (104 F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting f	uel delivery d Control
rev/min	cm ¹ /-1000 strokes	rev/min	rev/min	cm ¹ /~1000 strokes 5	rev/min	rod travel cm ³ /1000 strokes / mm 7
1325	68,5-69,5 (67,0-71,0)	700	775	72,5-75,5 (71,0-77,0)	-	-

En Checking values in brackets

Torque control travel on flyweight assembly dimension a

Testoil-ISO 4113

B. Governor Settings

0,4

Speed regulation At 1295-1310 min⁻¹

1 mm less control rod travel

Control rod

12,5-12,6

13,4-13,6

13,8-13,9

1045 12,7-13,0

Torque control

rev/min mm

12

11

1250

910

800

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control lever np 40°C (104 F)	Control rod stop 3a	Fuel deliv	ery characteristics (3)	Starting ti	Control
rev/min	cm 1/- 1000 strokes	rev/min	rev/min	cm*/-1000 strokes	rev/min	cm 1/1000 strokes / mm
1	2	3	4	5	6	7
1250	66,5 - 67,5 (65,0 - 69,0)	•	800	64,0 - 66,0 (62,5 - 67,5	-	- !
						1
Checking v	alues in brackets	<u> </u>	1	1	1	<u> </u>

B. Governor Settings

on flyweight assembly dimension a

..RS 2527 u. ..RS 2348 m. RQ 300/1250 AB 935 DL (6)

Checkin	g of slider	Full load	speed re	gulation		idle spe	ed r eg ula	ation		Torque d	
PRG che	eck 1	Setting po	oint	Test spe	cifications (4)	Setting p	point	Test spe	cifications (5)		(3
rev/min	Control rod fravel mm	rev/min	Control rod travel mm 4	Control rad travel mm 5	rev/min	rev/min 7	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel
800	19,2-20,8	800	20,0	10,9	1295-1310	300	8,5	100	min.10,0	1250	11,9-12,0
VH c	a. 46°			4,0	1360-1390			300 580-6 750	8,4-8,6 20 = 2,0 max. 1,0		12,7-12,9 13,5-13,6
	control travel		,65	mm		ed regula		95-13	10 min-1		1 mm less conti

C. Settings for Fuel Injection Pump with Fitted Governor

governor o	lelivery on control lever np 40°C (104 F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	Contro
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	red tr cm³/1000 strokes/mm 7
1250	58,0 - 60,0 (56,5 - 61,5)	•	700	53,5 - 56,5 (52,0 - 54,0)	-	-
				·		

B. Governor Settings

..RS 2527 m. RQ 300/1250 AB 935 DL (8)

Checking of slider Full load speed regulation idle speed regulation Test specifications (5) PRG check Setting point Test specifications Setting point Control rod Control rod Control rod Control travel rod travel rod travel rod travel travel travel rev/min imm rev/min rev/min rev/min mm rev/rnin rev/min mm mm mm 2 11 100 min.9,5 300 8,4-8,6 1250 10,5-10,6 800 19,2-20,8 VH = max. 46 20,0 300 8,5 800 9,5 | 1295-1310 1200 10,7-10,8 4,0 | 1360 - 1390 580-620= 2,0 800 11,4-11,6 500 11,4-11,6

Torque controt travel on flyweight assembly dimension a

0,45 _{mm}

Speed regulation Al 295-1310 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np 40 C (104 F)	(2)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting tidle spee	fuel delivery ed Comire
rev/min t	cm ¹ /-1000 strokes		rev/min 3	rev/min	cm*/-1000 strokes		rev/min	red travel cm 1/1000 strokes / mm 7
1250	60,5-62,5 (58,5-64,5)		-	800	58,5-60,5 (57,0-62,0)		-	-
				500	52,0-54,0 (50,5-55,5)			
							L	

Checking values in brackets

B. Governor Settings

g of slider		Full-load : Setting po	•	_	cifications (4)	idle spec	_		cifications (5)	forque o		3
Control rod travel mm	U	rev/min	Control rod travel	Control rad travel mm	rev/min	tev/min	Control red travel rmm	rev/min	Control rod travel mm	rev/min	Control rod travel mm	3)
 2		3	4	5	6	7	8	9	10	11	12	•••
											!	
									· :			

Torque-control travel on flyweight assembly dimension a

Speed regulation At

4 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np 40°C (104 F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting tildle spee	uel delivery
rev/min	cm³/-1000 strokes	rev/min	rev/min	cm³/-1000 strokes	rev/min	cm ³ /1000 strokes / mm
			·			

Notes:

With item 2 - PES 6 A 80 D 410/3 RS 2527 and ... RS 2348 with RQV 300-1400 AB 951 DL and item 6 - PES 6 A 80 D 410/3 RS 2527 and ... RS 2348 with RQ 300/1250 AB 935 DL

an engine code no. instead of the engine output is sometimes given by the customer on the engine nameplate.

These engine code nos. 1025, 1032, 1034, 1035 and 0708 require a reduced full-load delivery:

n
$$1250 = 57,5 - 59.5$$
 $cm_3^3/1000$ strokes n $850 = 55,5 - 57,5$ $cm_3^3/1000$ strokes.

From engine no. 6 216 324 the following applies:

n
$$1250 = 63,5-65,5$$
 $cm^3/1000$ strokes n $850 = 60,5-62,5$ $cm^3/1000$ strokes

This must at all costs be taken into account when new adjustments and control measurements are made.

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 6,1 d

3. Edition

PES 6 A 80 D 410/3 RS2527 EP/RSV 325-1150 A8 B2014DL

supersedes company

KHD F6 L912

3.84

Komb.-Nr. 0 400 866 084

engine

74kW (102PS) 2300 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.85-2.05)

mm (from BDC)

tractor DX 110-

Rotational speed rev/min	travel 2	Fuel delivery cm3/100 strokes	Oifference cm3/ 100 strokes	Control rod travel mm	Fuel delivery cm ⁹ /100 strokes	Sprir:g pre-tensioning (torque-control valve) mm
1150	11,8	5,6-5,7	0,2(0,35)			
325	+0,1 8,9-9,1	0,8-1,2	0,2(0,3)			
					<u></u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque controi Controi rod travei mm 11
loose	800	0,3-1,0				ca.23	325 100	8,5 min.19,5	•	11,8+0,1 12,0+0,2
ca.58	10,8 4,0 1350	1190-1200 1235-1265 0,3-1,7					325 390-450	8,9-9,1		12,5+0,2 12,5+0,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F) cm³/1000 strokes	Rotational- speed limitat Note changed to) rev/min 3		uel delivery naracteristics cm ³ /1000 strokes 5	Starting findle rev/min	cm ³ /1000 strokes	•	e stop Control rod travel mm
1150	56,0-57,0 (54,5-58,5)	1190-1200*	775	54,0-56,0 (52,0-58,0)	-	-	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.
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K18 ...

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 KHD 6.1 d 1 1. Edition

PES6A 85 D 410 RS 2537 Komb.-Nr. 0 400 876 270 RSV 325-1150 A8B2020 DL A8C2020 DL

KHD company

BF 6 L 913 Tractor DX145-S15

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

97 kW/2300 min⁻¹ (1) 107kH/2300 min-1 (2)

A. Fuel Injection Pump Settings

Port closing at prestrole 1,85-2,05)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm1/100 strokes 3	Difference cm ^{-//} 100 strokes 4	Control rod travel mm	Fuel delivery cm*/100 strokes	Spring pre tensioning (torque-confiol valve) mm 6
1150	11,0+0,1	8,0-8,2	0,3(0,45)			
325	6,8-7,0	1,0-1,6	0,2(0,4)			
		è				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interme	date rated	speed	Lower rated speed			(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm 9	rev/min	Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca.21	325 100 325	5.0 min.19,5 5,4- 5,6		
ca.55	10,0	1190-1200				İ	510-570			
20	4,0 1350	1225-1255 0,3-1,7						_		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat Note changed to) rev/min	3a Fu	el delivery aracteristics cm ¹ /1000 strokes	Starting fildle	cm /1000 strokes	•	Control rod travel mm
LDA 800	0,7 bar 77,0-78,0 (75,0-80,0) 0,5 bar 78,0-81,0 (75,5-82,5)	1190-1200*	LDA 650 LDA 500	0,3 bar 77,0-79,0 (74,5-81,5) 0 bar 61,0-63,0 (58,5-65,5)	100	120,0-130,	0 -	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Upper of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	ced Control rod travel mm 6	4 Lower Degree of deflection of control lever	rated spe rev/min 8	ced Control rod travel mm 9		que control Control rod travel mm
loose	800	0,3-1,0			ca.21	325	4,9-5,1	1150	1,0+0,
10030						100	min.19,5	750	2,4+0,2
07.75	10,0	1190-1200	4			325 510-9	5,4-5,6 $70 = 2,0$	450	2,5+0,2
ca.35	4,0	1225-1255	İ			700	0 - 1		
	1350	0,3-1,7							

C. Settings for Fuel Injection Pump with Fitted Governor

(2) LDA 0 1150 79,5	1000 strokes rev/min 3	LDA	5 0,7 bar	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm
1150 79,5							
(77,5	5 - 81, 5 5 - 83, 5)	0* 800 (PA	88,0 - 91,0 (86,0 - 93,0) 0 bar 60,0 - 63,0 (58,0 - 65,0)		120,0-130, 117,0-133, - 17,4-18, mm. RW	()	travel than col.

Checking values in brackets

Testoil-100 4113

D. Adjustment Test for Manifold Pressure Compensator

Pump/governor	Setting	Measurement	Control rod transly affine and
	(9 p)	bar (gp)	bar mm (1)XX
2537 mit 20200	0,70	0,37 0,09 0	12,6 - 12,8 12,2 - 12,3 10,6 - 10,9 10,6 - 10,7
	1		

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

WPP 001/4 KHD 6,1 f

Edition

PES 6 A 85 D 410 RS2572

RO 300/1325 AB1070DL (1)

ROV 300-1325 AB1072DL (2)

supersedes9.82 company K H D

BF 6 L 913

118 kW (160 FS)

Komb.-Nr. 0 400 846 440 (1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Fuel delivery

cm³/100 strokes

8.9 - 9.0

1.0 - 1.6

0 400 846 444 (2)

A. Fuel Injection Pump Settings

Please note instructions on sheet 2

2,20-2,30 (2,15-2,35) Port closing at prestroke

mm

Rotational speed

1325

300

rev/min

Control rod

13,1+0,1

4.9-5.1

mm (from BDC)	N=9,0 -	12,0 mm	
Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
100 strokes	mm	cm ³ /100 strokes	mm
4	2	3	6
0,3(0,45			
]			
l			
0.2(0.4)	*		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod	Full-load s Setting po			cifications 4	(dle spec	Control red travel	Test spe	cifications Control rod Itravel	Torque d	Control rod (3)
1	2	3	4	5	6	7	8	9	10	11	12
855 VH :	19,2-20,8	855	20,0	12,1 4,0 1550	1450-14	30	6,0	300	min. 7,5 5,9-6,1 545=2,0	-	-
								625	0 - 1		

on flyweight assembly dimension a =

Speed regulation 1370-1385 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor d Test oil ten	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)	Starting for a speed	Contrel
rev/min 1	cm³/-1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	red trace cm ³ /1000 strokes / mm 7
LDA 1325	0,7 bar 89,0 - 90,0 (87,0 - 92,0)		LDA 850 LDA 500	0,7 bar 83,0 - 86,0 (80,5 - 88,5) 0 bar 58,0 - 60,0 (55,5 - 62,5)	100	19-21 mm RW ₎ 24 V! Electromagnet
						./.

Checking values in brackets

RQV..1072DL

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated				Sliding sl	eeve travet
Degree of deflection of control lever	rev/min Control rod travel	control rod	(a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control ro travel mm	3	rev/min	mm 11
max.	1325	15,2-17	7,8	-	-	-	ca.13	100 300 375-	min.7 5,9-5 435 =2	,1	300 900	1,4-1,6 4,2-4,4
ca.47	12,1 4,0 1600	1365-13 1455-14 0 -					(3a)	530	0 -	1	1370	8,4

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem			Fuel deliv character high idle 9	ristics	Starting Idle switchir		Torque-d travel	Control Control ros
rev/min	cm³/1000 strokes	iev/min (4a)	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm /1000 strokes 7	rev/min 8	mm 9
LDA 1325	0,7 bar 89,0 - 90,0 (87,0 - 92,0)	1365-1375*	LDA 850 LDA 500	0,7 bar 83,0 - 86,0 (80,5 - 88,5) 0 bar 58,0 - 60,0 (55,5 - 62,5)		19-21 mm RW 24 V!) Electromagne) E	

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than co: 2

D. Adjustment Test for Manifold Pressure Compensator

Testain -

rev/min increasing pressure - in bar gauge pressure

Pump/governot	Setting	Measurement	diminution Control rod 漸基礎KXXX VXXXXXXX XXXXXXX
	Gauge pressure = bar	Gauge pressure " bar	mm
2572 + 1070D	0	0,22 0,32 0,70	9,7 - 9,8 10,5 - 10,8 12,2 - 12,3 13,1 - 13,2
2572 ₊ 1072D	0	0,22 0,32 0,70	9,7 - 9,8 10,5 - 10,8 12,2 - 12,3 13,1 - 13,2

En

Set full-load delivery at control lever and manifold-pressure compensator (LDA). Then turn LDA-adjusting sleeve (for delivery quantity) 1/2 turn in the direction more control-rod travel.

WPP 001/4 KHD 6,1 h Edition

En

PES 6 A 85 D 410 RS 2591

RS 325/1325 AOB 691 DL

9.82 supersedes KHD

company engine

BF 6 L 913 - BW 124 kW(169PS) 2650 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,50-2,60 (2.45-2.65)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm3/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1325	12.8-12.9	9,0-9,1	0,3(0,45)			
325	8,4- 8,6	0,9-1,5	0,2(0,4)		'	
	•			<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

VH=Control lever FH=Accelerato lever

Vertical position Horizontal position

=40° =40°

Degree of deflection of control lever	lever deflect			Control- lever deflection in degrees 7	Lower rev/min 8	3 To	rque control Control rod travel mm 11			
loose	800	0,3-1,0				FHca.21 VHmax.	325 100	8,5 min.10,0	325 1000	12,8-12,9 12,8-12,9
VHca.53	1415-14	875 =11,8 445 = 4,0 ,3-1,7					400-425	= 6,0	850 500	12,9-13,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test of te	II-load stop emp 40°C (104°F) cm³/1000 strokes	Rotational- speed limitat Note: changed to .) rev/min	(3a) Fu ch rev/min 4	el delivery aracteristics cm\$1000 strokes	Starting for Idle rev/min 6	cm ³ /1000 strokes		Control rod travel mm 9
LDA 1335	0,7 bar 90,5-91,5 (88,5-93,5)	1365-1375*	LDA 1000 LDA 850	0,7 bar 85,0-88,0 (83,0-90,0) 0,7 bar 83,5-86,5	100	104,0- 114,0 = 17,8- 18,2 mmRW (Electro-	r e	(24 V)
		LDA 0 bar	500	(81,5-88,5) 55,5-58,5 (53,5-60,5		* 1 mm less con		

ittsbererch KH. Kundendienst. Kf2-Ausrustung by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany & en République Fédérale d'Allemagne par Robert Bosch GmbH.

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

oump/qovernor	Settin	g		Measurement		Control rod trave	diminution I difference
	Gaug	e pressure	bar	Gauge pressure	bar	mm (1)	
2591 +	691 DL	0,7		0,430 0,160 0		12,7	- 13,1 - 12,8 - 12,3 - 11,7

Notes

(1) when n

rev/min and gauge pressure =

bar (' maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 1 h

4. Edition

PE 6 A 95 D 410 LS2587 RQV 300-1150 AB1088L (1) PE 8 A 95 D 410 LS2588 (2) ROV 300-1150 AB1088L PE 10 A 95 D 610/4LS2589 ROV 300-1150 AB1047DL (3) (2) PE 12 A 95 D 610 LS2590 ROV 300-1150 AB1047DL (4) .

supersede 82 companK H D (102 kW-139 PS) F 8 L (136kW-185PS)

F10 L (170kW-231PS)

F12 L (204kW-277 PS)

bei 2300 min⁻¹ Tunnelling or mining vehicles

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

		(1,45-1,05)							
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6			
1150	9,0-9,2	7,8-8,0	0,3(0,6)						
300	6,2-6,3	1,4-2,0	0,3(0,5)						
800/1000		C, 4-5	0,4(0,7)						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) 2587 mit 1088L

Upper rated	sceed			Intermediate	rated sp	eed	Lower rated	speed		Slidings	leeve travet
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	9	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm (3		mm 11
ca.68	1150 1350	15,2-17 0 - 1	,8		-	-	ca.11	300	min.7,5 5,9-6,1	300 600	1,2-1,3 3,1-3,4
ca.64		1190-120 1220-12					320-400 ③	610-	670=2,0	1190	8,5

Torque control travel : =

C. Settings for Fuel Injection Pump with Fitted Governor

Foll-load of Control-ro Vast oil ter		intermediate speed	Fuel deliv high idle s		Starting Idle switchir	. •	Torque- travel	Control 5 Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ² /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	8
1150	77,5 - 79,5 (75,5 - 81,5)	1190-1200*	800	80,5 - 82,5 (79,0 - 84,0)	100	119,0-129,0	800	9,0-9,1 9,5-9,6 9,5-9 _, 6

Checking values in brackets

* 1 mm less control rod travel than col. 2



Cam sequence and angular cam spacing

Tolerance $^{+}$ 0,50 ($^{+}$ 0,75)

Upper rated s	peed			Intermadiate	rated spe	ed	Lower rated	speed		Stiding sleeve travel	
Degree of deflection of control lever	Control rodtravel	travel		Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		mm
1	2	3		4	5	6	7	8	9	10	11
max.	150	15,2-17,	8	•	•	-	ca.11	300	min.7,5 5,9-6,1 570 =2,0	300 600 1190	1,2-1,3 3,1-3,4 8,5
ca.64	8,0 4,0 1350	1190-120 1220-125 0 - 1,	0				320-400 3a			1130	0,3

Torque control travel a =

0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) timitation intermediate speed	Fuel deln high idle t	very characteristics 5a	Starting Idle switchin	\sim	Torque-	control S
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	18	9
1150	77,5-79,5 (75,5-81,5)	1190-1200*			100	119,0-129,0	800	9,5-9,6
			800	80,5-82,5 (78,5-84,5)			500	9,5-9,6

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Testoil-ISO	41	13
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Upper rated	speed			Intermediate	rated spe	ed	Lower rated	speed			Sliding s	leeve travel
Degree of deflection		Control rod	(la)	Degree of deflection		Control rod travel	Degree of deflection	1	Control ro	d		1
of control lever	rod travel	rev/min	(23)	of control	rev/min	mm 4	of control lever	rev/min	mm	3	rev/min	mm
1	2	3		4	5	6	7	88	9		10	11
max.	1150	15,2-1	7,8	•		-	ca.1i	300	min.7, 6,2-6,	,3		1,2-1,3 3,1-3,4
ca.64	8,0	1190-1	200					620·	-680=2,	,0 -	1190	8,5
	4,0	1230-1					330-410					
	1350	0 -	1,0				За					

Torque control travel a =

mm.

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr		intermediate speed	Fuel deliv	very characteristics 5a peed 5b	Starting Idle switching		Torque- travel	control 5
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	83,0-86,0 (80,5-88,5)		116,5-126,5 (113,5-129,5) = 14,4-14,8 mm RW	500 895	9,1+0,1 9,6+0,1 9,4+0,2 9,1+0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding st	eeve travel
Degree of deflection of control lever	Control rodtravel	travel mm		deflection of control		Control rod travel mm 4	Degree of deflection of control lever		Control rod travel	rev/min	mm 1
1	2	3		4	5	6	7	8		10	11
max.		15,2-17, 1190-120		-	•	•	ca.11		min.7,7 6,1-6,3	300 600 1190	1,2-1,3 3,1-3,4 8,5
ca.64	4,0 1350	1225-125	5				320-425 3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil tem		Rotational-speed (2b) timitation intermediate speed	Fuel deliv	ery characteristics (5a)	Starting Idle switchir		Torque- travel	Control rod
rev/min	cm ³ /4000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm3/1000 strokes	rev/min 8	travel mm 9
1150	78,5-80,5 (76,5-82,5)	1190-1200*	800	83,0-86,0 (80,5-38,5)	100	116,5-126,5 (113,5-129,5)	500 900	9,1+0,1 9,6+0,1 9,4+0,2 9,1+0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding s	eeve travel
Degree of deflection	rev/min (Control	Control rod	(la)	Degree of deflection		Control rod travel	Degree of deflection	1	Control rod travel		0
of control lever	rod travel	rnm rev/សរភ	(2a)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm 3	rev/min	mm
1,	2	3		4	5	6	7	8	9	10	11
							3 a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np 40°C (104°F) 2	Rotational-speed (20) limitation intermediate speed	Fuel deliv	rery characteristics 58 peed 5b	Starting Idle switchin	fuel delivery 6	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

En

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 4,7 b 2. Edition

PES 5 A 80 D 410/3 RS 2579

RQV 300-1400 AB 1048 DL

supersedes 9.82

1 - 3 - 5 - 4 - 2 je $72^{\circ} \pm 0.5$ (± 0.75)

company: KHD F 5 L 912

74 kW (101 PS) 2800 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1400	
300 8.9-9.1 1.0-1.6 0.2(0.3)	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Stiding	leeve travel
Degree of deflection of control	rev/min Control	Control rod traysi	(Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		0
iever	rod travel	ten/win	2	lever	rev/min	mm (4)	lever	rev/min	mm 3	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1400	15,2-17	7,8	-	-	-	ca.10		min.7,5	250	0-0,6
ca.60		1480-14 1710-17 0 - 1					390-490		15,9-6,1 max,1,0	630 1020 1400	2,9-3,1 5,0-5,3 5,9
							3				

Torque controi travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics (5a)	Starting Idle switching	• 0	Torque- travel	control (5)
rev/min	cm ³ /1000 strokes .	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1400	62,5-63,5 (61,0-65,0)	1480-1490*	900	59,5-61,5 (57,5-63,5)	100	120,0-130,0 / 20,5-21,5		
			750	56,5-58,5 (55,0-60,0)		mm RW		12,0+0,2 12,4+0,1
	-							

Chucking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

WPP 001/4 KHD 6,1 k 2. Edition

PES 6 A 85 D 410/3 RS 2592

ROV 300-1250 AB 1089 L

supersedes company:

12.81 KHD

BF 6 L 913 engine:

118 kW / 2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,9+0,1	9,1-9,2	0,3(0,45)			
300	7,2-7,4	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Lipper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding s	leeve travel
Dagree of deflection of control lever	Control rod trave	mm -	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm 11
max.	1250 1500	15,2-17,8 0 - 1,0	-	-	-	ca.14	100 300	min.8,8 7,2-7,4	550	0,5-0,7 3,4-3,6
ca.68		1290-1300 1370-1400				370-450 ③			1250	5,2-5,4 8,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-red Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel deliv	rery characteristics (5a)	Starting Idle switchir	•	Torque- travel	control 5 Control rod
rev/min 1	cm ³ /1000 strokes	rev/min 49	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
LDA 1250	0,7 bar 90,5-91,5 (88,5-93,5)	1290-1300*	LDA 800 LDA 500	0,7 bar 85,5-88,5 (83,5-90,5) 0 bar 60,5-63,5 (58,5-65,5)	100	110,0-120,0 / 17,2-17,6 mm RW	500 800	11,9+0,1 12,3+0,1 12,3+0,1 12,1+0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

KHD 6,1 k

Testoil-ISO 4113

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure =	bar Gauge pressure =	bar mm (1) .
PES 6 A RS2592	0,67		12,2 - 12,3
withAB 1089 L		Ó	11,2 - 11,3
		0,4	12,0 - 12,1
		0,28	11,3 - 11,5

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 6,1 K 2

4. Edition

PES 6 A 85 D 410 RS 2592

ROV 300-1250 AB 1158 L

supersades9.83

Komb.-Nr. 0 400 546 437

company: KHD
engine BF 6 L 913
GMC-Fahrzeug
118 kW (160 PS)
/ 2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
12,5+0,1	8,4-8,5	0,3 (0,45			
8,3-3,5	1,0-1,6	0,2(0,4)			
	mm 2 12,5+0,1	mm cm³/100 strokes 3 12,5+0,1 3,4-8,5	travel cm³/100 strokes cm³/ 100 strokes 2 cm³/ 100 strokes 4 12,5+0,1 8,4-8,5 0,3 (0,45)	travel travel travel travel travel travel	travel cm³/100 strokes cm³/ 100 strokes mm cm³/100 strokes 2 3 12,5+0,1 3,4-8,5 0,3 (0,45

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed	•	Sliding s	leeve travel
deflection	rev/min Control	travel	ال	Degree of deflection		Control r	od	Degree of deflection of control		Control rod travel		0
	rod travel mm 2	rev/min (of control lever 4	rev/min 5	мп 6	•	lever	rev/min 8	mm 3 9	rev/min 10	mm 11
max.	1290	15,2-17,	8	•	•	-		ca.15	100 300	min.10,2 8,6-8,8		0,5-0,8 3,6-3,7
ca. 66	11,5 4,0 1500	1375-140	5					450-575		,		5,3-5,4 8,1
								39				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv	very characteristics (5e)	Starting Idle switchir	. •	Torque- travei	Control rod
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
	2	3	4	3	6	7	<u> </u>	9
LDA	0,7 bar	1290-1300*	LDA 800	0,7 bar 80,5-82,5	100	102,0-112,0 (99,0-115,0)	500	12,5+0, 13,2+0,
1250	83,5-84,5 (81,5-86,5)			(78,0-85,0)		= 16,9-17,3 mm RW		13,0+0, 12,6+0,
	(01,0000,0)		LDA 500	0 bar 59,0-61,0 (56,5-63.5)				

Chucking values in brackets

* 1 mm less control rod travel than col 2



D. Adjustment Test for Manifold Pressure Compensator

KHD 6,1 k 2 - 2 -

Test at n

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
EED + AES 2592	0,70		13,2 - 13,3
+ HQVAB 1156 L		າ	11,8 - 11,9
		0,48	12,8 - 12,9
		0,33	11,9 - 12,1
	7		
			,

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

40

WPP 001/4 KHD 6,1 k 1 3. Edition

En_

PES 6 A 85 D 410/3 RS 2592

ROV 300-1250 AB 1158 L

supersedes

9.82 KHD

Komb.-Nr. 0 400 836 027

company: engine:

BF 6 L 913 GMC vehicle

118 kW (160 PS) / 2500 min-1

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,2-2,3

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ² / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	13,2+0,1	8,8-8,9	0,3(0,45)			
300	8,7-8,9	1,0-1,6	0,2(0,4)			
	}					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated and Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 2a	of control		Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	mm
max.	1250	15,2-17,8	-	-	-	ca.15		min.10,3	0,5-0,8 3,6-3,7
ca.66	12,2 4,0 1500	1290-1300 1380-1410 0 - 1,0				350-450 3 a			5,3-5,4 8,1

Torque control trevel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roi Tost oil ten		Rotational-speed 2b timitation intermediate speed	Fuel deliv	rery characteristics (5a)	Starting Idle awitchin	_	Torque- travel	Control od
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	0
LDA 1250 LDA 1100	0,7 bar 87,5-88,5 (85,5-90,5) 0,7 bar 87,5-90,5 (85,5-92,5)	1290-1300*	LDA 800 LDA 500	0,7 bar 89,5-92,5 (87,5-94,5) 0 bar 59,0-60,0 (57,0-62,0)	100	118,5-128,5 / 17,8- 18,2 mm RW		13,2+0,1 14,0+0,1 13,8+0,1 13,3+0,3

Checking values in brackets

* 1 mm less control rod travel then col. 2

11.83

BOSCH

Beschältsbereich KM: Kundendienst, Kfz-Ausrüstung. C by Roberi Bosch GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany Ingrame en Republique Federale «Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 6,1 k 3

4. Edition

PES 6 A 85 D 410/3 RS 2592 Komb.-Nr. 0 400 836 028

RQV 300-1250 AB 1188 L

company 6 L 913 engine 118 kW/2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at pre	MYDYA .	2,2-2,3 2,15-2,351	mm (from BDC)			
Rotational speed		Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /1 00 s trok es 3	100 strokes	mm 2	cm ³ /100 strokes 3	mm 6
1250	12,0+0,1	8,9-9,0	0,3(0,5)			
300	6,9-7,1	0,9-1,5	0,25(0,4	5)		
		<u> </u>		}		
	ł			I		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediat	e rated ap	eed:	Lower rated	speed		Sliding s	leeve travel
Degree of deflection	control		Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		, ①
of control lever	rod travel mm 2	mm rev/min (2	of control lever	rev/min S	mm 4	of control lever	rev/min 8	mm 3	rev/min 10	mm 11
max.	1290	15,2-17,	3 -	-	-	ca. 13	300	6,9-7,1	325 850	1,5-1,7 4,9-5,1
ca. 65	11,0	1290-130 1375-140				355-470			1150 1400	7,1-7,3 9,9
						3				

Torque control travel a = 0.8

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) limitation intermediate speed	Fuel delin	rery characteristics (56)	Starting idle ewitchir	. •	Torque- travel	control 5
rev/min 1	cm³/1000 strokes	revimin 4e	rey/min 4	cm³/1 000 st @#es 5	rey/min	cm ³ /1000 strokes 7	f e virmn 8	travel mm
LDA 1250	0,7 bar 88,5-89,5 (86,5-91,5)	1290-1300*	LDA 800 LDA 500	0,7 bar 85,0-88,0 (83,0-90,0) 0 bar 59,0-61,0 (57,0-63,0)	100	110,0~120,0 (107,0-123,0 =17,1-17,5 mm RW) 500 775	12,0+0, 12,8+0, 12,5+0, 12,1+0,

Chucking values in brackets

* 5 mm less control rod travel than col. 2-

- 2 -

D. Adjustment Test for Manifold Pressure Compensator

KHD 6,1 k 3

Test at n

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2592 + RQVAG 1188 L	0,70	0 0,26 0,19	12,8-12,9 10,9-11,1 12,4-12,5 11,9-12,1
•			

Notes

(1) when n ~

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

WPP 001/4 KHD 4,7 c

3. Edition

En

PES 5 A 80 D 410/3 RS 2603 Ecomb.-Nr. 0 400 865 023 RS 325/1650 A O B 2087 L

supersedes3.83

engine F 5 L 912 54 kW (73 PS) 3000 min

A power output

All test specifications are valid for Bosch Fixel Injection Pump Test Benches and Testers

A. Fuel Injection Fump Settings

Port closing at prestroke 1.9 - 2.0 mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Orfference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1	2	3	4	2	3	6
1500	9,9-10,0	5,1 - 5,2	0,2(0,35)			
325	8,7-8,9	1,7 - 2,1	0,2(0,3)			
		•		ì		
				1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lower	rated spe	ed	3 Tor	que control
Degree of deflection of control			Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		Control rod travel
lever	rev/min	nm	lever	rev/min	mm	lever	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	•		•	VH max	325	8,8	-	-
loose						FHca.18	100 325	min.13,6 8,7-8,9		
VII ca.4	8,9	1690-1700				1	550-			
∰ınax.	4.0	1740-1770					600	max.1,8		
	1900	0 - 1,0								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop Test oil temp 40°C (104°F) rev/min cm³/1000 strokes		Rotational- speed limitat. Note: changed to	characteristics		Starting fuel delivery Idle		(5a) Idle stop Control rod travel mm	
1	v/min cm³/1000 strokes rev/min 2		4	5	6	7	8	9
1490	50,5-51,5 (49,0-53,0)	1690-1700*	-	•	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 12,7 p

2. Edition

PE 8 A 95 D 410 LS 2608

RQV 300-1100 AB 1126 L

supersedes 9.82 KHD

Komb.-Nr. 0 400 648 128

1-8-7-2-6-5-4-3 je 45° ± 0,5° (± 0.75°)

company F 8 L 413 F 133 kW/2200 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port clos	sing at pres	stroke	(1.95-2.15)	mm (from BDC)			
Rotation rev/min	nal speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
110	00	9,5-9,6	8,8-9,0	0,35(0,6)			
30	00	5,9-6,1	0,9-1,9	0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed			Intermediate	rated sp	eed		Lower rated	speed		Stiding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod fravel mm rev/min 3	9	Degree of deflection of control lever	rev/min 5	Control rad travel mm (6	0	Degree of deflection of control fever	rev/min 8	Control rod travel mm 3	rev/min	mm 11
max.	1100	15,2-17	8	-	-	-		ca. 14		min.7,5	250	1,1-1,3
ca. 44	8,5 4,0 1345	1140-115 1195-122 0-1,0	25					355-415	300	5,9-6,1		3,6-4,2 5,8-6,0 8,1
	1343	0-1,0						39				

Torque control travel a = 0.6 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ros Test oil ten	d stop np 40°C (104°F) 2	intermediate speed			Starting Idle switchir		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
1100	88,0-90,0 (86,0-92,0)	1140-1150*	700	90,5-93,5 (88,0-96,0)	100	120,0-130,0 (117,0-133,0)	500 825	9,5-9,6 0,1+0,1 9,9+0,2 9,6-9,9

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

leschäftsbareich KH. Kundandionat. Kfz-Ausrustung. : by Robert Boach Gribh, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany.

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 12.7 n 2. Edition

PE 8 A 95 D 410 LS 2609 RQV 300-1250 AB 1128 L Komb.-Nr. 0 400 648 129

1 - 8 - 7 - 2 - 6 - 5 - 4 - 3 je 45 ° $^{+}0.5$ ° ($^{+}0.75$ °)

companyKHD
engine BF 8 L 413 F
235 kW (320 PS)
2500 min -

estoil-150 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke (1.75-1.95)	mm (from BDC)			
Rotational speed		Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1250	11,6+0,1	11,6-11,7	0,3(0,6)			
300	5,9-6,1	1,6-2,2	0,3(0,5)			
					İ	
· '		l		L	l	<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	reted ap	ed	Lower rated	peed		Sliding s	lesve travel
deflection	rev/min Control rod travel mm	Control rod travet mm rev/min 3	(1) (2)	Degree of deflection of control lever	rav/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel	rev/min	mm 11
max.	1250	15,2-17,	8	•	•	•	ca.11	100 300	min. 7,5 5,9-6,1		0,5-0,8 2.9-3.1
ca. 57		1290-130 1370-140 0 - 1	00				380-550		•		4,7-4,9 7,7
							3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		limitation intermediate spend				fuel delivery 6	Control 5 Control rod	
rev/min	cm ³ /1000 strokes	rev/min 4	rev/min	cm ³ /1000 atrokes	rev/min cm³/1000 strokes		rev/min	
1	2	3	4	5	6	7	8	9
LDA 1250	0,7 bar 116,0-117,0 (114,0-119,0)	1290-1300 *	LDA 750 LDA 500	0.7 bar 121.0-124.0 (119.0-126.0) 0 bar 101.5-103.5 (99.5-105.5)		130,0-140,0 15,2- 15,6 mm RW	750	11,6+0, 12,4+0, 12,1+0,

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n = 500 rev/min decreasing pressure = in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (†) .
PE 8 A LS2609 + AB 1128	0,27	0,7 0	12,1-12,2 12,4-12,5 11,7-11,8

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

estoil-ISO 411

WPP 001/4 KHD 1 g 6

3. Edition

supersedes 6.83

Komb.-Nr. 0 400 864 051

PES 4 A 85 D 410/3 RS 2610 1 - 3 - 4 - 2 je $90^{\circ} + 0.5^{\circ}$ ($+0.75^{\circ}$)

RSV 325-1150 A 8 B 2102 L A 8 C 2102 L

company

KHD F 4 L 913

55 kW (75 PS)

D 7807 Tractor S 16

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.50-2.60

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery		Control rod travel	Fuel delivery	Spring pre-tensit
rev/min	mm 2	cm ³ /100 strokes	cm³/ 100 strokes	mm 2	cm ³ /100 strokes	mm :ô
1150	11,3+0,	6,8 - 6,9	0,3(0,45			
325	8,7-8,9	0,9 - 1,5	0,25(0,4	5)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed	7	Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travet mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	111
loose	800	0,3-1,0				ca.17	325	8,3	1150	11,3-11,4
	×	= 3.5					325	8,7-8,9	900 500	1,6-11,9
5 . 54	1190- 1230- 1400 =	200 = 10,3 260 = 4,0 0,3-1,7	•				460-	8,7-8,9 20 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	oad stop	6 Rotational- speed limitat		el delivery tracteristics	Starting idle	fuel delivery	Se Idi	e stop	
Test oil temp 40°C (104°F) rév/min cm³/1000 strokes 1 2		Note changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod traval mm 9	
1150	68,0 - 69,0 (66,0 - 71,0)	1190-1200*	500 800	57,5 - 59,5 (55,5 - 61,5) 64,5 - 66,5 (62,5 - 68,5)		•	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 KHD 1 g 5 1. Edition

En

PES 6 A 85 D 410/3 RS 2611 RSV 325-1150 A 8 B 2103 L (1)

supersed∈s

Komb.-Nr. 0 400 866 107

(1200)

company (2) F 6 L 913

engine (1) 81 kW / 2300 min⁻¹

DX 120-S 17

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(2) 84 kW / 2400 min-1 DX 120 - S 21

A. Fuel Injection Pump Settings

2,5-2,6

Port closing at prestroke

Festoil-ISO 4113

(2,45-2,65)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Oifference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm³/ 100 strokes 4	mm 2	cm³/100 strokes	mm 6
1150	11,3+0,1	6,8 - 6,9	0,3(0,45)			
325	8,8-9,0	1,1 - 1,7	0,2(0,4)			
		:				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		iale rated	speed	Control- tever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	9	rque control Control rod travel mm
loose		0,3-1,0 4,0	 •	-	ca.17	325 100	min.19,0	1150 870	11,6-11,8
ca.52		1190-1200 1225-1255 0,3 - 1,7				325 450-510	8,8-9,0 = 2,0	500	12,0-12,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	Rotational- speed limital Sa Fuel delivery characteristics			Starting t	uel delivery 5	4a Idle stop	
Test oil to	cm ⁹ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ² /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod trassi mm
(1) 1150	68,0-69,0 (66,0-71,0)	1190-1200*	800	63,5-65,5 (61,5-67,5)	100	119,5- 129,5 / 20,0	_	<u>-</u>
(2) 1200	69,5-70,5 (67,5-72,5)	·	800	63,5-65,5 (61,5-67,5)		21,0 mmRW		

Checking values in brackets

* 1 mm less control rod travel than col 2



Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 KHD 1 g 4

2. Edition

En

PES 6 A 85 D 410/3 RS 2611

RSV 325-1200 A0B 2148 L AOC 2148 L supersedes 9.82 KHD company

Komb.-Nr. 0 400 866 111

F 6 L 913 tractor DX 120-S21

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

84 kW (114PS) 2400min-1

A. Fuel Injection Pump Settings

2,5-2,6 Port closing at prestroke (2,45-2,65)

firm (from BDC)

Festoil-ISO 4113

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm St 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes	Spring pre-tensioning (torque-control valve) mm 6
1200	11,3+0,1	6,9 - 7,0	0,3(0,45)			
325	8,4-8,6	0,9 - 1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

	r rated speed		Intermediate rated speed			Lower rated speed			3 Torque control		
Degree of deflection of control	travel	travel			ļ	Control- lever deffection	rev/min	travel	rev/min	travel	
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11	
loose	800	0,3-1,0	•	-	-	ca.30	325	8,5	1200	11,3-11,4	
	x =	4,0							975	11,6-11,9	
ca.54	10,3 4,0 1425	1240-1250 1315-1345 0,3-1,7					325 450-510	8,4-8,6 = 2,0**	500	11,8-11,9	

** Set idle-speed auxiliary spring at 2 mm control-rod travel.

C. Settings for Fuel Injection Pump with Fitted Governor

	ili-load stop	6 Rotational- speed limitat	1 1 1 2 2 2 2	uel delivery naracteristics	Starting f	luel delivery 5	4a Idle stop	
Test oil te rev/min 1	emp 40°C (104°F) cm ² /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm\$/1000 strokes	rev/min	टारा-¥1000 strokes 7	rev/min	Control rod travel mm
1200	69,5-70,5 (67,5-72,5)	1240-1250*	800	63,5-65,5 (61 ₀ 5-67,5)	-	•	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.84

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2

estoil-ISO

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 9,6 i

2. Edition

PE 6 A 95 D 410 LS 2621

RQ 350/1250 AB 1148 L

supersedes

1 - 6 - 5 - 4 - 3 - 2

9.82 KHD

company: engine:

F 6 L 413 F 125 kW (170 PS)

0 -75 -120-195-240-315° ±0,5° (±0,75°)

2500 min-1

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC)

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
9,6-9,7	8,3-8,5	0,3(0,6)			_
6,9-7,1	1,6-2,2	0,3(0,5)			
	mm 2 9,6-9,7	travel cm ³ /100 strokes 3 9,6~9,7 8,3-8,5	travet mm cm³/100 strokes cm³/ 100 strokes 2 3 cm³/ 100 strokes 4 0,3(0,6)	travel cm³/100 strokes cm³/ 100 strokes cm³/ 100 strokes mm 2 2	travel (mm) cm³/100 strokes (cm³/ 100 strokes 2 100 strokes 2 3 2 2 3 3 (0,6)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slider	Full-load spee	-		Idle spec	-			Torque c	
PRG check Control rod rev/min mm 1	Setting point Cent rev/min inn 3	trei Centrei travei red travei		Setting proving rev/min	Control red travel	· ·	cifications (5) Control rod travel mm	rev/min	Control rod travel
550 19,2-20, VH = 46°	550 20		1295-1310 1325-1355	350	7,0	350 410-	min.8,5 6,9-7,1 450=2,0 max.1,0	1250 550 910 990	9,6- 9,7 10,1-10,2 9,9-10,1 9,6- 9,9

Torque-control travel on flyweight assembly dimension a = 0,25 mm

Speed regulation: At

1295-1310 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten		2	Control rod stop		Fuel delivery characteristics			_	Starting fuel delivery Idle speed Control		
rev/min	cm³/-1000 strokes		rev/min 3	r	ev/min	cm ³ /-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:// mm 7		
1250	82,5-84,5 (80,5-86,5)		600		800 1000	85,0-88,0 (83,0-90,0) 84,0-87,0 (82,0-89,0)		100	119,0-129,0		

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 9.6 i 1 2. Edition

PE 6 A 95 D 110 LS 2621 Komb.-Nr. 0 400 646 271 RQV 300-1250 AB 1195 L

supersedes 9.95 company KHD

1 - 6 - 5 - 4 - 3 - 2

 $0.75 - 120 - 195 - 240 - 315^{\circ} \div 0.5^{\circ} (\div 0.75^{\circ})$

141 kW /2500 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Tes: 31-150 4113

A. Fuel Injection Pump Settings

Port closing at prostroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,4+0,	9,2-9,4	0,35(0,6)			
300	6,4-6,6	0,8-1,4	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	e3d	Lower rated	speed	Sliding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1a) (28)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		0
max. ca.47	1270 9,4 4,5	15,2-1 1290-1 1360-1	300		-	-	ca.15	100 300 380-	min.8,0 6,4-6,6 440=2,0	550	0,7-0,9 3,5-3,9 6,2-6,6 9,2

0,4 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roi Test oil ten	d stop np 40°C (104°F) 2		high idle s		switching bount			Control (5) Control rod travel mm
1	2	3	4	5	6	7	8	9
1250	91,5-93,5 (89,5-95,5)	1290-1300*	750	93,0-96,0 (90,5-98,5)	100	116,5-126,5 (113,5-129,5		10,8+0 10,6+0

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 KHD 1 o 3. Edition

Festoil-ISO 411

PES 6 A 95 D 410 RS 2625 Komb.-Nr. 0 400 876 305 RSV 325-1150 A8B 674 DL

supersedes 9.83

company

B F 6 L 913 B engine Bagger

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.85-2.05)

mm (from BDC)

		Control rod travel mm 2	Fuel delivery cm³/100 strokes	D	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
T	1150	11,4+0,1	8,0 - 8,2	0,3(0,6)			
	325	7,2-7,4	1,6-2,2	0,3(0,5)			
	,						
			,				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod traval mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	ed Control rod travel mm	3 Tor	que control Control rod travel mm 11
loose	800 X =	0,3-1,0 3,0	-	•	-	ca. 15	325 325		1150 500 1000	11,4+0, 12,1+0, 11,8+0,
ca. 50	10,4 4,0 1325	1190-1200 1265-1295 0,3 - 1,7					585 - 6			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop				Starting fuel delivery title		Sa) Idle stop	
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to . rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes	rev/min 8	Control rod travel mm 9
LDA 1150	0,7 bar 80,0 - 82,0 (78,0 - 84,0)	1190-1200*	LDA 800 LDA 500	0,7 bar 83,0-86,0 (80,5-88,5) 0 bar 56,5-59,5 (54,5-61,5)	100	116,5-126,5 (113,5-129, = 15,9 - 16,4 mm RW	1	

Checking values in brackets

* 1 mm less control rod travel than coi 2

D. Adjustment Test for Manifold Pressure Compensator

KHD 1 o

Test at n =

500

rev/min decreasing pressure ~ in bar gauge pressure

-2-

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Pump/governor	Setting	Measurement	diminution Control rod travel- difference		
	Gauge pressure = bar	Gauge prossure = bar	mm (1) .		
PES 6 ARS 2625 with A8B 674 DL	0,7	0 0,36 0,2	12,2 - 12,3 11,1 - 11,2 11,9 - 12,0 11,1 - 11,3		

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)